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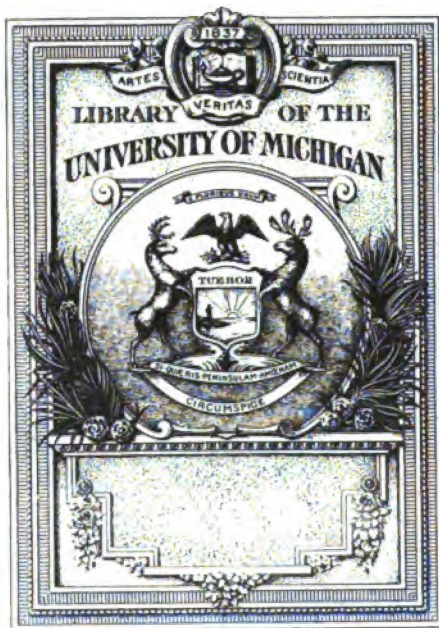
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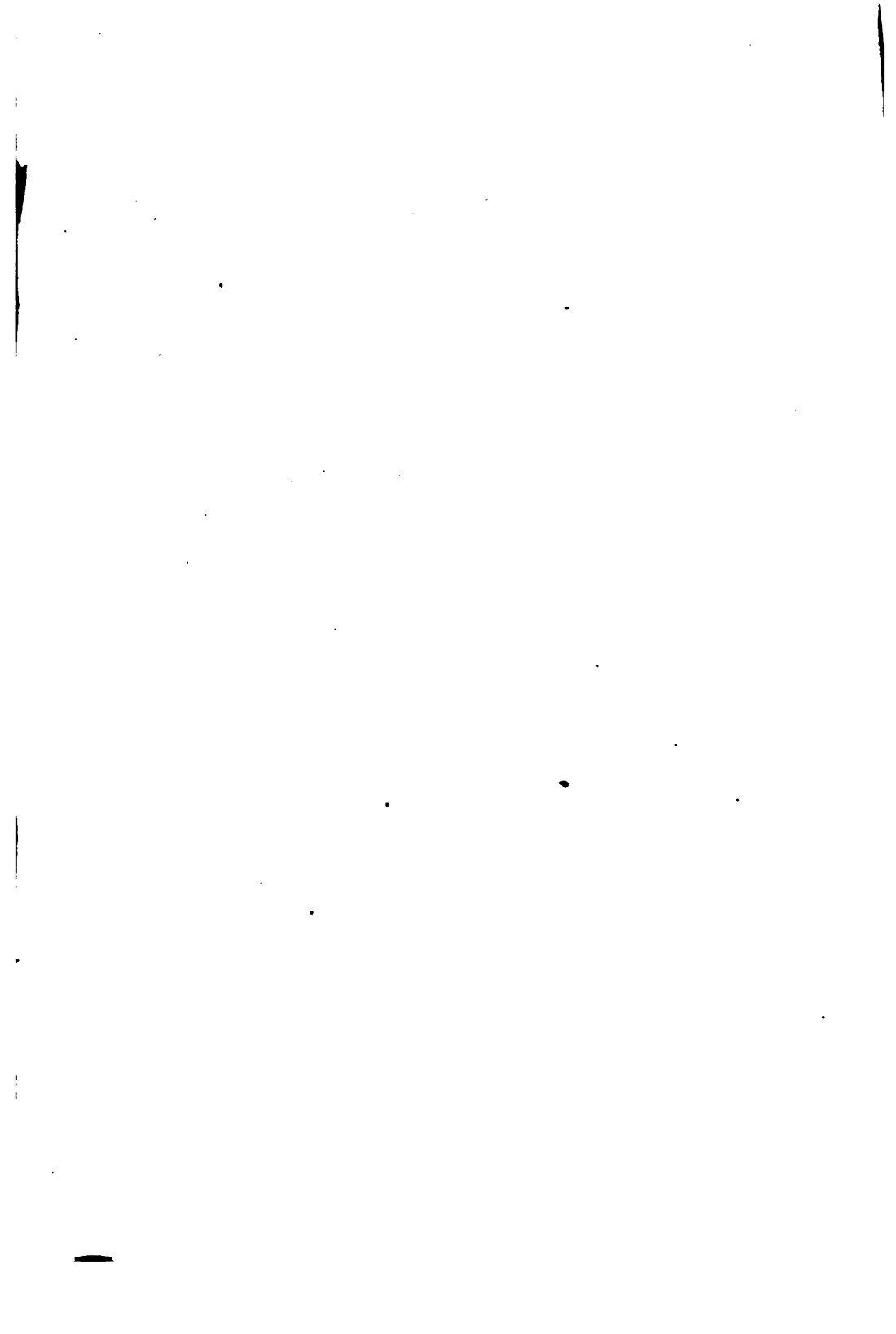
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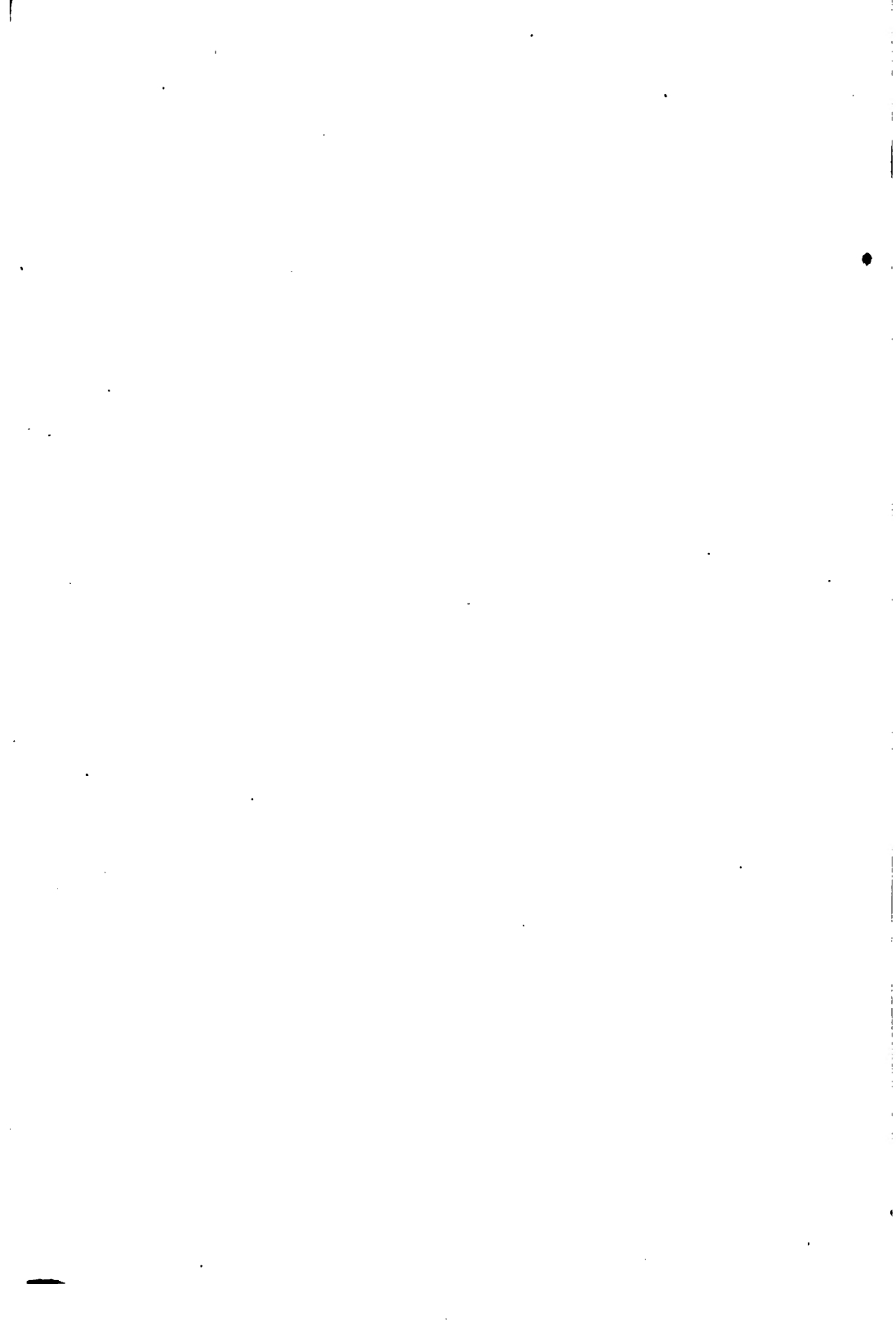


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TWELFTH BIENNIAL REPORT

OF THE

BUREAU OF LABOR

AND INDUSTRIAL STATISTICS.

STATE OF WISCONSIN

1905--1906.

J. D. BECK, Commissioner.

W. J. HAGENAH, Deputy.



MADISON
DEMOCRAT PRINTING COMPANY, STATE PRINTER
1906

LETTER OF TRANSMITTAL.

STATE OF WISCONSIN,
BUREAU OF LABOR AND INDUSTRIAL STATISTICS.

MADISON, September 30, 1906.

To His Excellency HON. J. O. DAVIDSON,
Governor of Wisconsin.

DEAR SIR:—In compliance with the laws of this state creating the Bureau of Labor and Industrial Statistics, I have the honor to transmit herewith the twelfth biennial report of this department.

Very respectfully yours,

J. D. BECK,
Commissioner.

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INTRODUCTION.

The twelfth biennial report of the Bureau of Labor and Industrial Statistics consists of seven parts.

Part I presents the results of a study of the principle of Co-operation as represented in the co-operative store. It emphasizes the extent to which the principle is now recognized as a factor in social and industrial progress; details the history of the co-operative movement in the United States; enumerates the kinds of co-operative stores, the causes of the establishment of such stores and the causes of their failure when failure has resulted; and presents statistics pertaining to those stores now in existence in the United States, with conclusions deduced therefrom relative to the present status of these institutions in this country.

The statistics and other information contained in this part of the report were collected by the Bureau and compiled by Mr. Ira B. Cross, then a Scholar in Economics in the University of Wisconsin.

Part II, The Statistical Aspect of the Strike, contains the results of an investigation, through the medium of statistics of the development or growth of strikes.

Statistics showing the increase or decrease of strikes in the United States and in foreign countries are presented. There is a discussion of the causes of strikes, particular attention being given to the movements from time to time which the variations in the causes indicate. The effect of trade-unionism upon the frequency, the duration, and the success or failure of strikes is studied. Finally conclusions are presented relative to the function of the strike as an element of industrial life, and to the evolution of the strike as indicated by the statistics for a period of twenty years. Part II was prepared for the Bureau

by Mr. Grover G. Huebner, a Scholar in Economics in the University of Wisconsin in 1905-6.

Part III relates to the Liquor Traffic in the United States and in Wisconsin. It contains the results of an investigation made in accordance with Chapter 418, Laws of 1903, which directed this department "to collect and publish all available facts concerning the manufacture, sale and consumption of spirituous, malt, vinous, or intoxicating liquors used as beverages in the state of Wisconsin." There is a discussion of the magnitude of the liquor traffic as carried on in the United States. The effect of the traffic upon society, as measured by the proportion of the cases of crime and insanity directly traceable to the use of intoxicating liquor, is shown; this data having been obtained as the result of an investigation which was conducted by the Massachusetts Bureau of Labor, an account of which is given in the twenty-sixth annual report of that bureau. The inquiry into the liquor traffic in Wisconsin takes into consideration, chiefly, facts relating to the retail distribution of liquors, such as the application of the local option law, high and low rates of license, number and distribution of saloons with reference to the number and density of population, etc. The statistics presented constitute a fair census of the saloon licenses in the state. A brief summarization of the principal facts exhibited by the data given concludes this part of the report.

Part IV is a report upon housing conditions in the city of Milwaukee. It treats of the tenement house problem in its relation to industrial life; states the methods of solution employed in foreign cities and in America; presents a detailed description of the various elements of the housing problem in Milwaukee; includes a statistical study of Milwaukee tenement houses; presents observations upon the various nationalities living in the cities; and outlines the requirements as to water supply, roofs, ceilings, walls, cellars, yards, garbage disposal, etc., that are necessary in order to insure a sanitary dwelling. There is a discussion of the relation of housing conditions to the existence and spread of tuberculosis. Emphasis is laid upon the need of parks and public play-grounds in crowded districts. Certain suggestions are made relative to steps which may be taken toward remedying such insanitary conditions as at present exist. To this end, also, an appendix is included, con-

taining material which can be used in judging present conditions or as a guide for future regulations.

Part V is a summary of Wisconsin's Resources, Industries and Opportunities. It contains an account of the soils of the state, from a geological standpoint; discusses the relative importance of the various industries carried on within the state, and the opportunities for their further development; and treats of the water power furnished by Wisconsin rivers. Each county is then taken up in detail and its location, area and population given and its soil described. The amount of land improved and unimproved is stated, and the branches of agriculture are suggested for which the soil and climate are best adapted. Much other information regarding land values, crops, etc., is included. Each town and city is next taken up, and a great variety of facts given concerning each. Among these are included those relating to its railway service, telephone and telegraph connections, lighting and traction systems, waterworks, educational facilities, factories, stores, professional men, assessed valuation, etc. Attention is especially directed in the case of each to those industries for which a good opening is offered. At the end of Part V there is included a recapitulation of the different industries best suited to the various cities and villages of the state.

Part VI contains the Manufacturing Returns of the state for the years 1904 and 1905. Each of the fifty-one larger industries is taken up separately, the statistics pertaining to the industry being arranged in eight tables. Following the tables a brief summary of the main facts relating to the industry is given. Twelve minor industries are treated similarly but more briefly. Statistics are also given in summary form for all establishments that reported for 1905, a part of which did not report for 1904 and were therefore not included in the earlier tables. The data are in all cases so arranged as readily to permit of a comparison between those of 1904 and those of 1905. It is therefore possible to determine in the case of each industry whether there was an advance or a retrogression during the period covered by the report.

Part VII contains four separate sections. The first is a report of the work of the factory inspectors for the period from November 1, 1904, to October 31, 1906. The names of the factories inspected are given, together with the number of persons em-

ployed in each, the number of buildings occupied, etc. A considerable amount of other information is presented relative to the various duties performed by the inspectors in the course of their work. The second section is a report of the work of the bakery inspector for the same period. The plan of presentation followed is the same as that just outlined. The third section summarizes the work of the four state free employment offices during the same period. The number of applications for help and for employment made at each office are given for each of the two years covered. The fourth section contains a chronicle of industrial events as published by various newspapers of the state during the year from November 1, 1905 to October 31, 1906.

PART I.

CO-OPERATION.

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THE CO-OPERATIVE STORE IN THE UNITED STATES.

IRA B. CROSS.

CHAPTER I.

INTRODUCTION.

Few people realize how important a factor Co-operation has become in our social and industrial life. Competition, that principle so vigorously advocated by the laissez-faire economists as the forerunner and harbinger of prosperity and individual rights, has disappeared to a surprising extent from the economic world of today. Co-operation on the other hand has become the keynote of social and industrial progress. Its presence and application are to be noted upon all sides. We see it in the co-operation of the capitalists who combine their resources, knowing that it is by this means alone that they can make use of the latest improved methods of production: in the unions of the workers, who realize that it is only by association that they can obtain higher wages and better conditions under which to labor; and in the establishment of co-operative stores, mines, factories and various other enterprises whereby an attempt is made to eliminate the middleman.

It is with but a small portion of the latter group of activities that we shall deal in the pages which follow, i. e., the Co-operative Store.

CHAPTER II.

KINDS OF CO-OPERATIVE STORES.

There are a large number of methods used in conducting co-operative distributing societies, but it will be necessary for us to consider only the most important and characteristic forms of these organizations, inasmuch as the remainder are but adaptations of those which are described below.

Today there still remains, to a great extent, the old fashioned "dividing store" as it was called in the early days of the co-operative movement in Massachusetts. No stock is sold and no dividends are declared. All that is necessary is that some person act as manager of the so-called "store" and get his friends to "bunch" their orders which are then sent to some wholesale or catalog house. The goods in time are shipped direct to the manager who divides them among his neighbors according to the original individual orders, charging a very small sum extra above the wholesale price in order to pay the expenses of freight and drayage. Purchases are thus made at a very low cost, and with but little trouble to those interested. Such trading is being encouraged more and more by the catalog houses, who by this means are able to compete vigorously and very often successfully, with the local retail merchants.

Another method is often followed by secret organizations which obtain trade discounts for their members. Contracts are made with certain firms who agree to give specified discounts upon all purchases made by persons presenting a card of the order. This method cannot be used successfully for any length of time because of the fact that those who do not belong to the order, and consequently do not obtain a discount upon their purchases, soon become dissatisfied with the arrangement, and much antagonism and hard feeling is aroused against the merchants who are parties to such a contract.

These two methods of co-operative distribution require no sale of stock and no declaration of dividends.

In a regular co-operative store, however, shares of stock are sold to individuals in small amounts and the business is conducted upon ordinary trading and commercial principles. At the close of each fiscal period, the length of which varies from six to twelve months, a fixed rate of interest is paid upon the capital stock, while the remainder of the profits is paid as dividends upon purchases. As a rule dividends upon purchases are paid only to members of the association, although in some cases we find them being given to all customers of the store. In the latter case the rate paid to non-members is usually one-half that given to the stockholders in the association. The business is generally run upon a cash basis, although credit is sometimes given to responsible persons or to members of the society. Market prices are rigidly adhered to with but few exceptions.

Many persons confuse a joint stock company with a co-operative trading society. The distinction between the two is very evident. In the former all the profits of the business are paid upon the capital stock, the rate of dividends varying with the net receipts of the trade. In the latter the capital stock receives but a fixed rate of interest, usually high, while the remainder of the profits goes to the stockholders in the shape of dividends based upon the amount of goods purchased. In a joint stock company the number of shares which can be held by one person is seldom limited. In a co-operative association is usually a case of "one share to a person." In some instances we find a joint stock company possessing co-operative features, the only difference being that in addition to the distribution of the profits of the business among the stockholders upon the basis of the amount of stock held, the members of the company are permitted to purchase goods at a discount of from five to ten per cent. No dividends, however, are paid upon purchases.

In 1844 a few poor weavers in Rochdale, England got together in a cellar and inaugurated a movement in the co-operative field which has since spread to all corners of the globe.

Their efforts resulted in what is now called "The Rochdale Method." It was the first time that a successful basis had been given to the co-operative movement. It was simply a plan of "feeding capital upon the profits of the business." In brief the principles of this system, as practiced today, are as follows:

1. Money is hired but has no vote. A fixed rate of interest is paid upon the capital stock.

2. A person can hold but one membership and have but one vote. Voting by proxy is prohibited.

3. Goods are bought and sold for cash, and at regular market prices. Cutting of prices is not permitted.

4. Profits are returned to the members in proportion to the amount of their purchases.

5. Pure goods are sold and full weights and measures are given.

6. Retail stores are federated and own their own wholesale house.¹

The application of these principles has resulted in the up-building of a movement in England and Scotland which surpasses anything in the commercial world of today. It represents more than 2,120,000 active members, over 10,000,000 customers, and an annual business which considerably exceeds \$500,000,000.00.

This system was first introduced into the United States in 1864 by a co-operative society in Philadelphia and was later popularized and practiced to a great extent by the Grangers and Sovereigns of Industry in their attempts at Co-operation. Today, in the United States, it finds its chief exponents and advocates among the co-operators of the Pacific states under the leadership of the Rochdale Wholesale Company,² and in the North Central states where its doctrines are propagated by the Right Relationship League.³ The Rochdale stores as organized by these two associations are similar in every important regard. In the Pacific Coast movement, however, the wholesale house from which supplies are bought, is owned entirely by co-operative retail associations, located in California,

¹Co-operative Journal, Oakland, Cal., April, 1904.

²See page 32.

³See page 34.

Idaho and Washington, while in the case of those organized by the Right Relationship League, each store owns an interest in the Co-operative Merchant's Company of Chicago,¹ a wholesale purchasing association composed both of co-operatively and of privately owned stores. The portion of stock held by the former is exceedingly small although all stores, which are stockholders, share alike in the benefits of the association. The only real difference in the Rochdale system as advocated by these two agencies lies in the fact that the stores of the Right Relationship League are always capitalized at a definite amount while in the Pacific Coast societies the capital stock is unlimited, the price of the shares alone being fixed by the constitution of the association.

As far as we have been able to ascertain there are no stores in the United States which are organized upon the same basis as are the Civil Service, and Army and Navy stores of England. The members of these associations come exclusively from the Civil Service, the Army, or the Navy, as the names signify. This method of co-operative distribution originated in 1864 in the establishment of a co-operative store by members of the Post Office Department in London. These stores sell at cost prices, or as near that as possible, the object, unlike that of other co-operative stores, being to supply the members with goods at the lowest possible prices rather than to afford them the inducement to acquire the habit of saving.²

An unique development of the co-operative movement in the United States is to be found in a number of so-called "College Co-operative Societies" connected either directly or indirectly with many of our educational institutions. In most cases, under judicious management, they prove to be very successful and of great benefit to the student body which patronizes them. Books, athletic goods, paper, and all those things needed by students in their college work are carried in stock. Membership is obtained by the purchase of a share or membership card, the price of which varies from \$1.00 to \$5.00. In some cases the membership has to be renewed each

¹ See page 33.

² Holyoake, *History of Co-operation*, Vol. II, p. 185.

year, in others it is possible to purchase a one, two, three, or four year card, or still again, in some places the fee is the same for any length of time. Interest is never paid upon the shares or membership cards, the profits of the society being divided among the members upon the basis of the amount of goods purchased. Yearly meetings are held for the election of officers and manager, and for the consideration of the yearly report. When the student leaves the college his membership remains a portion of the company's assets. It cannot be withdrawn nor sold to another. It is a case of "once a member, always a member."

There are many other methods of conducting a co-operative association but the above briefly describes the most important of those which are followed by the co-operators of today.

CHAPTER III.¹

HISTORY OF THE CO-OPERATIVE MOVEMENT IN AMERICA.

No trace of the establishment of co-operative stores in the United States is to be found prior to the formation of the New England Association of Farmers and Mechanics, in 1831. This was one of the many district labor associations which sprang up in this country during the early part of the 19th century as a result of changing economic conditions. Its first convention was held in Boston in 1831, and it was at this meeting that the subject of co-operation was taken up and discussed. Various other organizations also took part in the agitation for the establishment of co-operative enterprises, with the result that several stores were started in different parts of the New England states. With no precedents to serve them as a guide, these ventures soon failed, leaving no records or results behind them.

Previous to this, however, a system of trade discounts had existed in the larger cities whereby an organization or secret society was able to obtain reduced prices for its members. Several dividing stores were also in operation. It was in one of the local divisions of the New England Association of Farmers and Mechanics that the latter system bore fruit of great importance. The meetings of the Boston Division were poorly attended, and one of the members thought that interest could probably be aroused if each person could be induced to put in a certain sum of money with which a box of tea or a barrel of flour might be purchased and divided. The result was that very soon a dividing store was established. So successfully did this plan work that in October, 1845, twelve of these men

¹The major part of that portion of this chapter which deals with the co-operative movement prior to 1860, is based for the most part upon the excellent monograph by Dr. E. W. Bemis, "Co-operation in New England," published in Vol. VI of the Johns Hopkins University Studies in Historical and Political Science, and also upon an able article in the *North American Review*, Vol. 137, p. 327, upon "Co-operation" by R. Heber Newton.

met in a little room over the Boylson Market in Boston and organized the first division of what was later known as "The Workingmen's Protective Union of America." The latter association was formed on January 7, 1847, and so rapid was its growth that one hundred and six divisions were established before 1850. Local divisions formed a Central Agency and made quarterly returns to it relative to membership, sales, amount of stock and various other matters. The sales of the association amounted to \$112,507.79 in 1848, \$220,801.60 in 1849, and \$535,338.56 in 1850. A purchasing agent was located in Boston and to him were sent orders to be filled, and produce to be sold. The agent was paid no regular salary, but received a commission of three-fourths of one per cent upon all purchases made, and a commission of two per cent upon all produce sold.

In 1849 the name of the organization was changed to that of "The New England Protective Union." Eighty-three out of the one hundred and six divisions in 1850 had a membership of 5,109, while eighty-four of them reported a capitalization of \$71,890.36, the average capital stock being \$855.63. During the last four months of 1850, sixty-seven divisions of the "Union" purchased over \$102,000.00 worth of goods through the Central Agency, while in the first nine months of the following year, over \$620,000.00 worth of goods was purchased through the same agency. The number of divisions had grown to four hundred and three in 1852, and the sales of one hundred and sixty-seven of them amounted to \$1,696,825.46. Following the disruption of the "Union" in 1853, a rival organization was formed which was called "The American Protective Union." From 1853 to 1858 this association transacted a business varying in amount from \$1,000,000.00 to \$1,536,000.00.¹

It was believed by some of the officials of these organizations that by 1850 there were over seven hundred of these stores in operation. This year was surely a high water mark for the protective unions, for they immediately began to wane in importance. Many failed completely, while others passed into joint

¹Mass. Bureau of Labor Statistics, 1877, p. 78.

stock companies, and into the hands of private individuals. In a large number of cases the managers of these concerns bought out the interests of the stockholders and ran the store as a private establishment, while but one or two of them endured the strain occasioned by the approach of the Civil War.

These early co-operative stores, sold, as a rule, to none but members of the association. They were supposed to give no credit, altho there were many instances in which credit was freely granted to almost any person. At first no attempt was made to secure large profits, the stockholders being content with a six per cent dividend upon their shares, but in the later days of this movement a desire to make all the money possible for the stockholders was noticeable. The price of goods, which had previously been placed as close as possible to the actual cost of the articles, was increased so as to obtain larger dividends for the members.

As a weapon for the betterment of the condition of the workingman, the New England Protective Union practically ended in 1853, but as a "co-operative effort on the joint stock plan for the concentration of trade, it succeeded in part probably up to 1857 or 1869."¹

If the Civil War had not occurred just at this time and thus hastened, if not actually caused the downfall of these stores, it is safe to say that the co-operative movement would be much farther advanced than it is today. True, the methods which were then in use would not be fitted to our modern trade conditions, but the methods of co-operative stores evolve as do the methods of other mercantile enterprises. They adapt themselves to their environment with a like rapidity. On the other hand, these stores might have followed the same course as did those of the later labor movements, i. e., died with the decay of the movement itself. But even if this had been true, the co-operative movement would have received a great impetus from their continued existence.

There are several other causes why these stores failed as they did. The people had not been sufficiently trained in the matter of co-operation. They could not always see the value of trad-

¹ Mass. Bureau of Labor Statistics, 1877, p. 85.

ing at the Central Agency. They had not learned to suppress their individual desires whenever these happened to conflict with those of the majority. The managers were often incompetent and untrained in the ways of the business world. The stores sold at cost, or as close to the cost price as possible. This naturally engendered an extraordinary amount of opposition from the retail merchants who used every means at their disposal to kill the co-operative establishments. Then too, by selling at cost prices, there was no opportunity to accumulate a surplus from the profits with which the business might be tided over an era of poor trade conditions. The result was that many of the stores failed because of the fact that there was never anything behind them excepting the daily purchases of the members. Prices during the '50's were very unsteady. Many of the stockholders became frightened, because of the unsettled condition of the business world and sold their stock, or else demanded that the store be abandoned.

During the next few years, although co-operation as a movement was dead, nevertheless several co-operative stores still existed and did fairly well, while one or two new stores were organized in various parts of the Eastern states. In 1864 the Boston Labor Reform Association began the co-operative buying and selling of coal among its members. So successful was this venture that they soon began the sale of produce, flour and other necessities of life. Goods were sold only to members of the Association and always at cost. In 1865 this store was formally incorporated and at about the same time similar enterprises were started at Roxbury, Charleston, Chelsea, and Fitchburg, Massachusetts.¹

Trade magazines published during the '60's make mention of meetings which were held for the discussion of Co-operation, of calls for lectures and for information. Fincher's 'Trade Review' notes the establishment of thirty-six stores in ten States from 1863 to 1866 while many others were being planned. At about this time a conference of the stores in the New England States was held at Boston and the establishment

¹Massachusetts Bureau of Labor Statistics, 1877, p. 89.

²Quoted by R. H. Newton, North Am. Rev., Vol. 137, p. 328.

of a wholesale house was seriously discussed. Nothing of importance, however, resulted from this convention. As a result of this renewed interest, which was purely of a local nature, the following additional stores were established in Massachusetts:

Sandwich Workingmen's Co-Operative Association,	1866.
South Reading Co-Operative Association,.....	1866.
Fall River Workingmen's Co-Operative Association,	1866.
Acushnet Co-Operative Association	1868.
Lynn Workingmen's Co-Operative Association....	1867.
Cochiluate Protective Union	1868.
Gardner Co-Operative Association	1868.
Lynn Co-Operative Grocery Company	1868.

In 1864 the Rochdale method of Co-operative Distribution was introduced into the United States. At that time the members of a Philadelphia co-operative store obtained the constitution and by-laws of the original Rochdale Association and planned their organization upon the same principles. They were very prosperous for a short time, the sales in some instances exceeding \$7,000.00 for three months. Three branches were started but the venture proved to be too expensive and the stores failed.

On August 20, 1866, the National Labor Union was organized in Baltimore. It was to have been a national federation of all unions, but was born before its time. After several poorly attended meetings, the movement was abandoned. However, one of the resolutions passed by this body declared that "We hail with delight the organization of co-operative stores and workshops, and would urge their formation in every section of the country, and in every branch of business." The Union lived but a few years and consequently had no effect upon the co-operative movement. Its declaration is significant in the light of the subsequent attitude of organized labor towards Co-operation. It was but a harbinger of that which was to follow.

THE PATRONS OF HUSBANDRY.

In 1867 the Patrons of Husbandry was founded. This order, which was destined to play such an important part in the history of co-operation, was a secret organization "devoted to the interests of the agricultural classes." It originated through the efforts of O. H. Kelley, who, as an official of the Bureau of Agriculture, had traveled extensively throughout the United States inquiring into the condition of the American farmer. He was amazed at the seeming poverty and misery of that class, and immediately set about to organize a society which was intended to be a messenger of the "Farmers' Millennium."

Extensive railroad building had scattered an enormous number of immigrants throughout the country, and consequently had increased the competition among the farmers. This resulted in lowering the prices which were received for their products and in increasing their hardships. Linked with this was the fact that the farming population was entirely at the mercy of the middlemen, who charged exorbitant rates for all commodities. This was not wholly due to the desire of the latter to be greedy, but to the fact that the farmers had little or no ready money, and the merchants were forced to sell their stock for credit. The farmers were unable to free themselves from the evils of this credit system and could not successfully oppose the retailers because of lack of organization. The originators of the Grange, as the movement was called, saw these difficulties and attempted to remedy them, first, by insisting upon the principle of cash payments, and secondly, by an effective organization of the farming population.

During the first few years of its existence, the membership of the order increased at a rapid rate, owing partly to the pressure of the hard times which were then prevalent. In 1873 more than 10,000 branches were established in six months. This number was practically doubled in the succeeding year, while in 1875 there were over 763,000 members of the order.

The Grange, from the very nature of its conception, was a society based upon co-operation. It had for its object the establishment and extension of co-operative principles among the farmers, as is shown conclusively by the following section taken from "The Declaration of Purposes of the Patrons of Husbandry."

"For our business interests we desire to bring producers and consumers, farmers and manufacturers, into the most direct and friendly relations possible. Hence we must dispense with the surplus middlemen, not that we are unfriendly to them, but we do not need them. Their surplus and their exactions diminish our profits."

In a circular letter sent out to the manufacturers by the Grange officials shortly after its organization, the object of the order was stated as being the desire

"To secure to its members the advantages of Co-operation in all things which affect their interests, thus enabling them to purchase implements and machinery at as low a cost as possible by saving the commission usually paid to the middlemen, and the profits which now go to a long line of dealers standing between the manufacturers and the farmers."

It was only by an association among the farmers that their condition could be improved. From the very first the subject of co-operation occupied an important place in the councils of the order and it was but a short time until the members began various co-operative enterprises.

One of the most common methods as well as the one which was tried first of all, was to have the members of the local Grange concentrate their orders upon a certain wholesaler or manufacturer with the understanding that a discount was to be given to them upon their trade. This plan was comparatively successful in some instances, but the opposition of the retail merchants often succeeded in influencing the manufacturers to cease trading with the Grangers. With but little better success county Granges were then formed in whose hands were placed the orders of the local Granges. The ultimate outcome of the whole matter was that all of the local Granges banded together and agreed to support a State Purchasing Agent to whom should be sent all the orders of the subordinate associations.

He was thus enabled to buy in large quantities, in fact in car-load lots, and at greatly reduced prices. He was given the power to make arrangements with the individual manufacturers and always attempted to get as favorable discounts as possible. Confidential lists containing the names of those houses with which arrangements had been made were sent to each local Grange. Orders were made up from these lists and forwarded to the State Purchasing Agent. He re-arranged the orders and sent them to the various dealers. The latter then forwarded a receipt for the same to the Agent and shipped the goods direct to the local Granges. At a meeting of the latter, the members would gather and distribute the purchases. By this means many thousands of dollars were saved to the Grangers, the goods being purchased at almost wholesale prices.¹ The business of these State Agencies was enormous. The Ohio Agency in one year transacted almost a million dollars worth of trade, while that of Indiana often amounted to more than a thousand dollars a day. It was no unusual occurrence to have the annual purchases of these agencies range from \$200,000.00 to \$700,000.00. At one time the Grange had five steamboat lines, thirty-two grain elevators, and twenty-two warehouses to assist in the co-operative buying and selling of goods.

The State Agents were required to give bonds equal to the amount of money which they might be called upon to handle while transacting the trade of the order. This effectually guarded the members of the Granges against losses which might otherwise have occurred. Cash payments were always insisted upon and it was by following this principle that the farmers were able to break the power of the credit system which had been so burdensome to them. The Purchasing Agent would at times buy a stock of goods at a bankrupt sale, and then in turn dispose of it to the members of the Grange at greatly reduced prices.

In sending orders to the manufacturers, the State Agents as a rule would give the preference to those establishments located in the state.

¹It is claimed that over \$12,000,000.00 was saved to them by this method of trading in 1874.

The discounts enjoyed by the Patrons through their State Agencies varied from fifteen to fifty per cent. Quoting from several of the confidential circulars, which were found during this investigation, we learn that "upon Weed Sewing Machines, wooden and iron pumps, fifty per cent is given to all Patrons." Reapers which had previously sold for \$275.00 were retailed to them at \$175.00; threshing machines were reduced from \$300.00 to \$200.00 and wagons from \$150.00 to \$90.00. In Iowa the Grangers received a discount of forty per cent upon sewing machines, twenty to twenty-five per cent on parlor organs, twenty-five to thirty-three per cent on scales, fifteen per cent on shellers, twenty per cent on wagons, thirty-three per cent on hay forks, and twenty-five per cent on harrows, cultivators, feed grinders, and other miscellaneous agricultural implements. It can be safely said that the Patrons saved at least thirty-three and one-third per cent upon all their purchases by this system of trade discounts. The "Confidential Revised and Consolidated Price List of the Ohio State Grange for 1876" contained the names of one hundred and seventy-five firms, located for the most part in Ohio, which gave trade discounts to the Patrons upon almost every conceivable article.

At first the only inducement held out to the farmers as a reason for their joining the association, was this financial side of the order, the savings upon purchases which would result from buying through the State Agency. With the panic of 1873 many of the Granges disbanded because of the fact that there were no social ties to hold the members together. From that time on however, the social side of the order was made more prominent without diminishing the attention given to co-operative buying and selling.

The trade of whole sections of the country was often concentrated in the orders sent in through the Agencies of the Grange. Bankruptcy stared many of the middlemen in the face. It was no more than to be expected that the small retailers would fight these attempts of the Grangers at co-operative buying, and this they did by trying to induce the wholesalers and manufacturers not to sell to the Grange Agencies.

While they succeeded in some cases, nevertheless as a rule the wholesalers preferred to sell to the Patrons, inasmuch as cash always accompanied the order. In many instances the local dealers reduced the prices to such an extent that the farmers were able to buy as cheaply from them as through the Grange. Sometimes they even sold at a loss while attempting to secure the trade of the farmers in their localities. This policy often resulted only in bankruptcy for the retailer. "Enterprising business men were quick to take advantage of the Grange movement, and advertised their houses as Grange Supply Stores." Montgomery Ward and Company began in this manner, and their customers in the early days were Grangers for the most part.¹

This system of trade discounts "soon assumed proportions beyond the business talent and experience of the order."² Many and varied complaints arose and in the majority of cases the State Agencies were abandoned. It was claimed that "the Agent had handled articles of inferior value," "that he had selected second and third rate articles," and that "the price of machinery was higher than that demanded by the local dealers."³ Delays in the shipment of orders, the forwarding of unsatisfactory goods, the necessity of always sending cash with the order, these and many other disadvantages resulted in creating great dissatisfaction with the system of Agencies, and in the report of the Executive Committee at the National Grange in 1877 we find the following significant recommendation:

"We have made much inquiry and investigation into the system of State Agencies . . . and feel warranted in advising the discontinuance of any one now in existence. There have been more failures than successes."

Not only was there dissatisfaction among the Patrons with the methods and results of these agencies, but the same feeling existed as well among the manufacturers, but arising from different causes. The confidential discount lists which were sent to

¹A. B. Paine, *The Granger Movement in Illinois*, *Unl. of Ill. Studies in History*, Vol. 1, No. 8, p. 42.

²H. H. Newton, *North Am. Review*, Vol. 137, p. 330

³*Wisconsin Grange Bulletin*, August, 1878.

each local Grange did not always remain confidential. Several years after the inauguration of this system it soon became apparent that

"Injurious publicity had been given to these circulars. Many of them never reached their destination and in all probability fell into other hands than was intended. Members were not sufficiently strict in carrying out their part of the agreement with the manufacturers . . . and the result could readily be seen. Manufacturers soon became aware of the fact that their private arrangements had been made public . . . and withdrew from the bargains with a feeling of distrust for the order."¹

Attempts at remedying these difficulties were given up in despair by the Executive Committee of the National Grange and in short time the greater part of the Agencies were abandoned.²

But during the years just preceding the abolition of the Agencies, another form of co-operation began to attract the attention of the Grangers. It was the establishment of co-operative stores. The various State Granges had discussed the matter at great length, but it was not until 1875 that the National Grange took any action relating to this subject.

In Wisconsin we find that as early as 1874 "six Granges united to form a Mercantile Association with \$5,000.00 stock, \$212.00 of which was paid up."³ During the first year of its existence, a business of over \$12,000.00 was transacted and a dividend of ten per cent was declared upon paid-up stock. Another Grange co-operative store in Henry county, Iowa, had done a business of \$28,000.00 during 1874, while a third, located in Clinton county in the same state, had sold over \$40,000.00 worth of goods.⁴

The agitation for the establishment of co-operative stores continued to grow. In 1875 an English corporation known as "The Mississippi Valley Trading Company" sent a representative to the United States with the hope of interesting the

¹ Report of the Executive Committee to the National Grange, 1875.

² Purchasing Agencies still exist in several states in which the Grange is comparatively strong.

³ Wisconsin Grange Bulletin, March, 1875.

⁴ Wisconsin Grange Bulletin, June, 1875.

National Grange in an attempt to establish co-operative stores in the Mississippi Valley. When this had been done, they claimed that it would then be possible for the co-operators of England to carry on the purchase and sale of goods directly with the co-operators in the United States. The National Grange officers did not consider the Mississippi Valley Trading Company to be the bona fide representative of the Rochdale co-operators, and hence refused to have any dealings with them.

So great had become the interest in the subject of Co-operation among the Grangers, and so urgent was the necessity of the National Grange taking some action in regard to the matter, that they sent a representative to England to study the movement and report thereon. At the same time the Executive Committee recommended that "the National Grange use every effort to encourage among the Patrons the establishment of retail and wholesale stores upon the strictest principles of Co-operation." This resulted in the printing and distribution of thousands of copies of the constitution, by-laws, and other documents of the Rochdale co-operators by the National Order.

Stores sprang up in almost every city in which local Granges were located. The Worthy Master of the National Grange in his address before the National Convention in 1876 said, "Hundreds, and it may be, thousands, of co-operative stores have been established in the various States and Territories of the Union with various amounts of capital and perhaps as various in other features and in their fortunes." "In Illinois at one time there were Grange stores in one-half of the counties,"¹ based for the most part upon Rochdale methods, and usually having a capital stock of \$5,000.00 in shares of \$10.00. In Massachusetts in 1875 there were fifteen distributive co-operative associations "representing a share capital of \$75,000.00, and assets equaling \$140,000.00 in value. Eight making reports showed 1,650 members with a share capital of \$50,000.00 and sales amounting to about \$500,000.00 per year."² There were also thirty dividing stores in Fall River, Mass., which had about 1,500 members and an annual trade of \$300,000.00,

¹A. G. Warner, *Three Phases of Co-operation in the West*, Am. Econ. Ass. Publications, Vol. 2, Monograph 1, p. 34.

²Massachusetts Bureau of Labor Statistics, 1875, p. 456.

the average charge of conducting the business being an addition of about four per cent to the wholesale prices of the articles purchased.² During this year, Grange co-operative stores were also established at Los Angeles, Visalia, Grand Island, Meridian, Santa Barbara, and San Buenaventura, California.

The demand for literature upon the subject of co-operation was unprecedented and the Secretary of the National Grange in one year distributed over 120,000 copies of English tracts upon this matter.

The customary basis upon which these stores were organized and operated was as follows:

1. Cash system of business.
2. Sell for a fair margin of profit.
3. A fixed rate of interest on share capital.
4. Quarterly settlements.
5. Division of profits among the purchasers.
6. Full dividends to the shareholders on purchases.
7. Half dividends to non-members and non-Patron customers.
8. Each member to have one vote regardless of the number of shares owned.
9. Not over one hundred shares at \$5.00 each shall be owned by one person.

This, as will readily be seen, was modeled in almost every respect upon the Rochdale system. It is needless to say that these rules were not closely followed by the Grangers and many failures ensued.

So enthused had the Patrons become over the matter of co-operation that the Worthy Master in the National Convention in 1876 proceeded, during his address, to formulate "A National System of Co-operative Distribution." He proposed that the United States be divided into six districts, each of which would have a central shipping point with warehouses, wholesale stores and other necessary equipment. To facilitate trade between the co-operators of England and the United States he advised the formation of an "Anglo-American Co-operative Trading Company Ltd." But the Patrons had overreached their mark and within the next few years the order

²Massachusetts Bureau of Labor Statistics, 1875, p. 458.

began to decline as did the enthusiasm concerning the establishment of co-operative stores. Many of the projects of the Grange were given up and nothing more was heard of the "Anglo-American Co-operative Trading Company Ltd."

In Wisconsin, however, in January, 1878, there were at least twenty Patron co-operative stores, a majority of which were members of a state co-operative association which met at the same place and time as did the State Grange. Four of these in 1878 reported a capital stock of \$16,200.00 and a trade of \$107,000.00.

The enthusiasm of the Grangers for co-operation gradually died away as prosperity followed the panic of 1873 and with the relaxation which usually follows the rapid growth of any organization. A large number of stores failed, although we find in Ohio, according to the report of the Bureau of Labor Statistics for that year, and there were "stores and agencies of the Patrons in nearly every county in the State through which everything needed by the farmer from a paper of pins to a threshing machine is furnished at wholesale price for cash with the addition of the net cost of distribution." In Texas also in 1885 there was a co-operative wholesale society with about 150 retail stores operated in connection with the Order of the Patrons. In Missouri in 1880 there were fifty-seven Grange stores together with a State Purchasing Agency.¹

Today but few of the stores established by the Patrons remain. Although but temporarily successful, nevertheless the Grange stores did a great work. They not only succeeded in saving millions of dollars to the farmers upon their purchases, but they were also greatly instrumental in lowering the prices of articles to persons who were not members of the order. The low prices gotten by the Patrons through their stores and agencies forced the retailers to reduce their prices materially in order to compete with them. The system of cash payments, enforced to a greater or less degree by these co-operative ventures, succeeded in freeing the farmers to a considerable extent from the oppression of the old system of credit. They also learned how to co-operate with one another and realized that

¹ Missouri Bureau of Labor Statistics, 1880, p. 213.

more could be accomplished when men associate and work together than when they act as individuals.

The greater portion of the Patrons did not realize the difficulties which stood in the way of their success as co-operators. They rushed into the movement with an enthusiasm almost unparalleled in the history of farm and labor movements. That they would fail was a foregone conclusion, although in exceptional cases a few of the stores were, and still are, exceedingly successful. But what of the hundreds that failed! It appeared to be a comparatively easy matter to displace the middleman. Co-operation then, as now, painted a pretty picture to most men, a picture of joy, of harmony, and of financial success. "Many looked forward to a kind of Granger's Millennium,"¹ but they little realized the difficulties which lay before them. Many were disappointed with the results of their attempts. They had expected great returns from these undertakings and when they discovered that they were really not becoming millionaires, they became discouraged with the venture and abandoned it in disgust.

As farmers they had always led a more or less isolated *in* independent life. They had no need, and no opportunity, of co-operating with one another in previous years. They did not know how to work together and when this spirit is lacking, successful co-operation is impossible.

Patron stores were established in places where it would have been impossible for any co-operative enterprise to have existed, no matter what safeguards might have been thrown around the association. Good business management was also lacking. It was impossible for a man who had lived upon the farm during his whole life to step into the shoes of a merchant and successfully conduct a co-operative business.

It also seemed impossible for the farming class to "break away" from the habits of the past. They disliked the idea of paying cash for goods purchased. Many found it much more to their liking to buy goods of the local merchant who would give them credit for several months.

¹ Warner, Three Phases of Co operation in the West, Am. Econ. Assn. Pub., Vol. 2, p. 12.

The small Patron stores could not keep an extensive line of goods in stock owing to the fact that they were not sufficiently capitalized. The result was that the Patrons readily found fault with the goods and with the management of the store. Quarrels, jealousies and abandonment usually followed.

THE SOVEREIGNS OF INDUSTRY.

Shortly after the reaction against the Patrons had set in, another organization which had as its motto the word, "Co-operation" appeared upon the economic field with the intention of doing for the workers in the factory what the Patrons had done for the workers upon the farm. This organization was "The Sovereigns of Industry," and was begun in 1874. Briefly, it was a secret order with pass words and ritual. It grew so rapidly that before forty days had passed "councils were formed in eighteen States" and in two years the order had spread over twenty-five States.

The purposes of the order were fully set forth in the preamble to the Constitution of the National Council, which stated that the order intended to establish "a better system of economical exchange and to promote, on a basis of equity and liberty, mutual fellowship and co-operation among the producers and consumers of wealth."

"The first attempts were to secure reduced rates from regular tradesmen who in consideration of receiving the patronage of a large number of persons, would make a considerable reduction to every one who quietly presented a Sovereign's trading card."¹ These discounts varied from five to fifty per cent and goods were thus often sold to the Sovereigns at five and ten per cent above cost. Committees from the local organizations waited upon the merchants of the town and got the lowest possible prices from them. The Sovereigns would then concentrate their purchases upon the lowest bidder. This trade was considerable as the order increased in numbers, and the merchants found it to their advantage to make as low prices as possible in order to obtain it. By this means the

¹Boston Herald, Nov. 25, 1875.

members of the order were able to get the very lowest prices upon all things used in the home, and contracts were made with merchants dealing in goods of every description. State and National Committees also made contracts with manufacturers and wholesalers, and confidential lists bearing the names of these firms were distributed among the members of the society.

"But leading minds in the movement early became of the opinion that only by starting Sovereign stores could they reach rock bottom prices for groceries."¹ The National Council urged the local councils to establish co-operative stores and with this in mind the former printed and distributed thousands of copies of the Rochdale by-laws and constitution. For two years "the Sovereigns of Industry kept two paid lecturers in the field who devoted much of their time to instructing the people in Co-operation."² Stores owned and operated by the Sovereigns sprang up all over the Eastern and Central parts of the United States, but they in turn were soon to follow in the steps of the co-operative experiments of the Grangers.

In Massachusetts in 1875 there were forty-eight stores in operation with a capitalization of \$30,228.00 and an average monthly trade of \$26,250.00. In 1876 the number of establishments had fallen to thirty-nine. Twenty-nine of these were capitalized at \$35,316.00 and had an average monthly trade of \$49,806.00. One-half of these were joint stock companies, seventeen did not deliver goods, twenty sold only to Sovereigns, and twenty-two sold below the current market prices.³

Co-operative stores were established, not by the sale of stock, as is customary with ordinary co-operative companies, but by the loaning of money by the individual members to the council. These loans were for any length of time, and usually bore seven per cent interest. Several councils in a locality would then combine the money thus collected and prepare for the establishment of a co-operative store. Such a combination of councils could have no standing before the law. Hence each council was asked to elect one trustee for every \$100.00 sub-

¹*Boston Herald*, Nov. 25, 1875.

²*E. Bemis*, U. S. Bulletin of the Dept. of Labor, Vol. 6, p. 614.

³*Massachusetts Bureau of Labor Statistics*, 1877, p. 100.

scribed by the members of that council. These trustees then organized under the Massachusetts Law of 1871 as "The Sovereign's Trading Company," and began business. The shares of the council were in the name of the trustees, and any appropriation of them by the latter was carefully guarded against.¹

The usual method of conducting business was to sell at the lowest possible prices and only to members of the order. No dividends were declared, interest being paid on the money subscribed. The business was controlled not by the members who had contributed the money with which the store was begun, but by the councils of the community. This democratic method of operation soon resulted disastrously. The sale of goods to Sovereigns only, was a bad policy, for although the stores sold only to members and could draw no trade from any other source, the members could trade elsewhere, as they often did when attractive bargains were offered by the retail merchants.

The order had grown too rapidly. Many undesirable and ignorant people had been drawn into the movement.² Continued hard times made it exceedingly difficult for the members to remain in the order, inasmuch as no employment could be found by them. Quarrels and jealousies arose with the result that the National Order was disrupted and the Sovereigns of Industry soon disappeared. The majority of their stores also failed, although a few of them still remain.

In 1877 there were thirty incorporated co-operative stores in Massachusetts with a paid up capital of \$71,279.00.³

THE INDUSTRIAL BROTHERHOOD.

In 1872-74 another attempt similar to that of the National Labor Union was made to unite all the organized workmen into a national body. This federation was called "The Industrial Brotherhood." It lived but a few years and then disappeared from the industrial field. The fourth plank

¹Boston Herald, Nov. 25, 1875.

²E. Bemis, *Am. Econ. Assn. Publications*, Vol. 1, Mon. 3, p. 46.

³American Co-operative News, Sept., 1897.

of the preamble to the Constitution of the "Brotherhood" called for "the establishment of co-operative institutions, both productive and distributive." The organization took no active part in the propagation of co-operative doctrines. Its existence was of too short a duration. Its purposes as well as its platform were adopted by the Knights of Labor in 1878, the latter having been organized in 1868.

THE KNIGHTS OF LABOR.

From the very first the Knights of Labor were pledged to a Declaration of Principles which was extremely co-operative in its nature. Its members immediately undertook the establishment of co-operative stores, factories, foundries, and various other enterprises throughout the United States. In 1882 the National Convention created a Co-operative Board. Nothing of importance was ever accomplished by this committee inasmuch as they did nothing more than merely recommend that "the local Assemblies use every effort to establish co-operative stores."¹ The wide scope of the measures advocated by the Knights of Labor is revealed in a resolution which was adopted at the Philadelphia Convention in 1884. The resolution declared that it should be the endeavor of all members of the Knights of Labor "to associate our own labor in order to establish co-operative institutions such as will tend to supersede the wage system by the introduction of a co-operative industrial system."² Their goal was the complete destruction of the competitive wage system and the inauguration of one based entirely upon co-operation.

Exceptionally few of the stores and co-operative establishments started by them are still alive. Even in Minneapolis, which became famous as the home of the most successful attempt at co-operative production, inaugurated mainly through the influence of the Knights of Labor, the home of the Co-operative Cooperage Shops, even in this city we find that fierce competition and sharp business practices together with the in-

¹ Powderly, *Thirty Years of Labor*, p. 469.

² Powderly, *Thirty Years of Labor*, p. 453.

vention of new methods of production, have practically destroyed all that which survived after the decline of the Knights of Labor co-operative movement.

It was also during this period that the Plumbers International Union and other organizations accumulated funds for the purpose of propaganda along the lines of co-operative industry, while at the same time the Sociologic Society of America was very active in spreading the same doctrines throughout the United States.

It is as exceedingly difficult to obtain accurate data concerning the movement of this period (1881-1888) as it is today. The statement of J. M. Bloomer, Master Workman of the Ohio Knights of Labor in 1887, that "From the most reliable data at hand one might estimate the number of co-operative stores in New England and the Eastern States at two hundred and the Middle and Southern States at three hundred with a total capitalization of \$5,000,000.00"¹ is without doubt greatly exaggerated, coming as it did from one who was, and still is, an enthusiastic advocate of co-operative doctrines. Nevertheless we find that there were eighteen co-operative stores in Maine in 1887;² ten, and perhaps more, in Ohio;³ three or four in Minnesota,³ and ten in Illinois.⁴ Those in Illinois for the most part were joint stock corporations organized under the laws of Illinois and composed of workmen. They did not embrace any of the special features of the Rochdale system of co-operation.

THE FARMER'S ALLIANCE.

From 1886-1892 the Farmer's Alliance was active in propagating co-operative ideas among the southern farmers. It was a secret order having for its object the obtaining of social and commercial benefits for its members. Its members attempted to eliminate the middleman in both the sale and purchase of products. They established a system of trade discounts

¹Ohio Bureau of Labor Statistics, 1887, p. 26.

²Maine Bureau of Industrial and Labor Statistics, 1887, p. 195.

³Ohio Bureau of Labor Statistics, 1886, pp. 65-81.

⁴Minnesota Bureau of Labor Statistics, 1887-88, 243-245.

⁵Illinois Bureau of Labor Statistics, 1885-86, p. 460.

and purchasing similar to the plan pursued by the early Grangers. In 1890 it was said that the Farmer's Alliance Exchanges did a business of over \$10,000,000.00. The attention of the Alliance today is directed towards the establishment of co-operative elevator companies, to co-operative selling rather than to co-operative buying.

In 1886 a very complete study of the co-operative movement in the United States was made by four graduates of the Johns Hopkins University under the supervision of Prof. R. T. Ely, now of the University of Wisconsin.¹ They found about eighty stores in the country organized upon a co-operative basis. Very inadequate returns were obtained, but thirty-two of the fifty-three associations in New England reported a capitalization of \$187,466.00 and twenty-two of these had 5,470 shareholders. Although thirty-three of them had sales amounting to \$1,609,401.00 nevertheless the estimated trade of the fifty-three associations has been placed at about \$2,000,000.00.² Seven of the stores outside of the New England States reported sales aggregating \$357,673.78.³ A great future for the development of co-operative institutions was predicted by the investigators, but they little realized the troublous times that were lying in wait for the establishments of which they wrote. In 1896 but thirteen of the fifty-three New England Associations were still in business while a majority of the remainder in other parts of the country had ceased to exist.⁴

It was in 1886 that the first attempt was made to form a federation of co-operative stores. In that year Geo. McNeil of Massachusetts called a meeting of the representatives of those known to exist in and around Boston. But eight responded to the call and nothing more than a mere informal discussion of the situation resulted.

During the next ten years there was but little activity in the co-operative world. Very few stores were started while many of those in existence were abandoned. From 1881-1895 only thirty-three stores had been chartered in New Jersey. Twenty-

¹ History of Co-operation in the United States, Vol. 6, Johns Hopkins University, Studies in Historical and Political Science.

² *Ibid.*, Vol. 6, 129.

³ E. Bemis, U. S. Labor Bulletin, Vol. 6, 614.

⁴ *Ibid.*, Vol. 6, 615.

five of these began operations, and but ten of them were alive in 1895.¹ Two more failed before the close of that year.²

CO-OPERATIVE UNION OF AMERICA.

In the winter of 1894 plans were laid by R. H. Barlow and James Rhodes of Lawrence, Massachusetts, and Prof. F. J. Peabody and Rev. R. E. Ely of Cambridge, relative to the formation of a Co-operative Union similar to that which then existed, and still exists, in England. On September 5, 1895, an invitation was sent out to all of the known co-operative societies and a meeting was held sometime later. But twenty persons responded and it was decided to call another convention in December. This was done and on December 7, about sixty persons met at "The Prospect Union" in Cambridge and organized the "Co-operative Union of America." It was composed of fourteen societies, twelve of which were in the New England States, the other two being in New York and New Jersey. The sole aim of this association was that of education. It gathered and distributed information relating to the co-operative movement, assisted in the establishment of stores and in the strengthening of those already in existence. It published an official magazine for several years at Cambridge which was called "The American Co-operator," but with the decay of the Union itself, which shortly resulted, the magazine was abandoned. Very little in the shape of actual work was accomplished by the organization. It but paved the way for future experiments along the same lines.

THE AMERICAN CO-OPERATIVE UNION.

In 1896 an effort was made in Kansas to federate all the co-operative institutions into a state organization. With this end in view a meeting was called at Topeka in April of that year and steps looking to the formation of such an association were taken. At the conference, a sentiment developed relative to the formation of a national federation of all the co-operative

¹New Jersey Bureau of Statistics of Labor and Industry, 1895, p. 183.

²M. Bemis, U. S. Dept. of Labor Bulletin, Vol. 6, p. 614.

interests in the United States similar to that which existed in England. A call for a convention was issued, the same to be held in St. Louis, July 1, of that year. The Populist National Convention was held at the same place and time, and "the conjunction did not prove to be a happy one."¹ There was a very small gathering. Those who did come, came as individuals, and for the most part at their own expense.² Too much politics was in evidence. The conference resulted in the formation of "The American Co-operative Union," with Alonzo Wardall of Kansas as President, and Imogene Fales of New York as Secretary. Such an organization was ill timed. It was far ahead of the co-operative movement in this country and never held another meeting, nor accomplished anything of importance.

In 1896 a fairly exhaustive investigation of the status of "Co-operative Distribution in the United States" was made by Dr. E. W. Bemis for the U. S. Department of Labor.³ As a result of his work he found that there were some seventy co-operative stores in the United States, (twenty-two of them being in New England), with a possible membership of 19,000 persons. Including the 6,000 people who were members of the one hundred and thirty-four labor exchanges scattered over the nation, the number of individuals interested in Co-operative Distribution at this time reached a possible 25,000. The trade of forty-one of these stores which made partial returns amounted to \$2,372,000.00 for 15,707 members. The business of the associations in New England had almost doubled from 1886 to 1896 although the number of societies had been increased by the addition of but three establishments.

The next few years noticed a slow but steady growth of co-operative stores encouraged by no central organization or movement of any kind. It was a spontaneous development, arising from the demands of the people for lower prices upon goods purchased. In 1899 there were at least thirteen co-operative stores in Iowa organized and supported for the most part by the farming population of that State.

¹Cummings, *Quart. Jour. of Econ.*, Vol. 11, p. 273.

²E. Bemis, *U. S. Dept. of Labor Bull.*, Vol. 6, p. 626.

³E. W. Bemis, *U. S. Dept. of Labor Bull.*, Vol. 6, pp. 610-644.

THE PACIFIC COAST MOVEMENT.

It was in California that the first successful State Federation was formed. It was here that such great activity had been shown in the early years by the Grange and the Alliance, the latter in 1894 having obtained the passage of a law requiring that a person could hold but one share of stock and could have but one vote in any co-operative organization. This proved to be a great incentive to the co-operative movement and has been copied by the law makers of several other states.

On November 7, 1899, fifty persons representing every phase of co-operative activity met in Oakland, California, and formally organized the Pacific Coast Co-operative Union for the purpose of the study and propagation of co-operative ideas. The matter of establishing a wholesale house from which the co-operative stores could purchase their supplies was discussed, and a committee appointed and authorized to proceed with the work of organization. On January 1, 1900, the wholesale business of J. M. Moore & Son of San Francisco was purchased and re-named "The Rochdale Wholesale Company."

This company is owned and controlled by the individual retail co-operative stores scattered throughout California, Washington and Idaho. It has a paid up capitalization of \$60,000.00 divided into sixty shares of \$1,000 each. A retail company can hold but one share and have but one vote. Interest at the rate of 8% is paid upon capital stock, while the profits of the business are returned to the co-operative stores, comprising the company, in the shape of dividends proportioned upon the amount of their purchases. In connection with the wholesale business, a promotion department was organized which actively carries on the work of establishing new societies. These retail stores, in connection with the wholesale company, comprise what is known as "The Rochdale Family."

The Rochdale Wholesale Company has been very successful in business, the latest returns showing sales exceeding \$262,000.00 for the fiscal year of 1904 while for the month of January, 1905, they amounted to \$18,342.96.

The retail stores are also based upon the Rochdale system of "one person, one share, and one vote," the shares being placed at \$100.00 each.

It is safe to say that in no place is the co-operative movement so strong or so successful as it is upon the Pacific Coast. The principles of co-operation have been sown far and wide throughout these States, while the organization for the establishment and operation of co-operative stores has been made almost perfect. In this work the co-operators have been greatly assisted by the establishment of the "Co-Operative Journal" at Oakland, Cal., in January, 1900. This efficient magazine has proven to be so helpful to the movement that it has lately been changed from a monthly to a weekly periodical.

THE CO-OPERATING MERCHANTS CO.

In 1900 the "Co-Operating Merchants Company," of Chicago, Ill., was formally organized. This corporation, composed of over four hundred and fifty retail stores, some co-operatively¹ and some privately owned, serves as the medium through which these stores co-operatively purchase their supplies, buying direct from the wholesalers and manufacturers, thus saving the profits of the middlemen. The Company is the outgrowth of "The Associated Merchants, U. S. A." which began in 1896 as a co-operative buying agency for a large number of retail merchants. This corporation owns two wholesale houses, one at Chicago, the other at Toledo, Ohio, besides publishing its monthly trade organ, "Mixed Stocks." The \$100,000.00 capital stock of the company is divided into shares of \$10.00. Only active retail merchants can become members of the association and then only by the purchase of no more and no less than twenty shares of stock.

The method of doing business followed by the company, is very simple. Orders are sent direct to Chicago by the stores which are members of the association. These orders are then "bunched" by the agent, and sent to the wholesale houses and manufacturers. All goods are billed at regular wholesale

¹Only about twenty of the 450 members of the Company are co-operative stores.

prices, "the difference between what the members pay for goods and what the goods cost the Company is placed to the credit of each member upon his order. At the end of the year each member gets the sum of these differences on his purchases less his share of the expenses of doing business."¹ In addition to this an annual dividend of eight per cent is paid upon the capital stock.

The Company has been very prosperous and successful, having earned an average of 40% each year upon its outstanding capital stock besides accumulating a surplus of something over \$30,000.00.

THE RIGHT RELATIONSHIP LEAGUE.

In 1900 also the "Right Relationship League" was organized at Chicago by several men interested in co-operative enterprises. This association was formed solely for the propagation of co-operative ideas. It furnishes literature and an organizer to any group of men who desire to establish a co-operative society. The plan usually followed is to buy out a privately owned store and change it into a co-operative organization, the manager of the former being retained as the manager of the co-operative store. All of the associations established by the League are based upon what it calls, "True Co-operation the Real Thing." This consists for the most part in equality of ownership and voting power together with strict adherence to the principle of cash payments. It also provides for the accumulation of a reserve and an educational fund from the profits of the business. Eight per cent interest is annually paid upon the capital stock, while the profits of the trade are apportioned among the members upon the basis of the amount of goods purchased. The shares, only one of which can be held by each stockholder, are placed at \$100.00 and can be paid for in installments if so desired. Co-operative stores thus organized by the League always become members of the Co-operating Merchants Company of Chicago, which serves them as a co-operative wholesale house.

¹Circular of the Company.

STATE CO-OPERATIVE ASSOCIATIONS.

In 1901 the Kansas State Co-operative Association was formed. At the third annual meeting of the organization in 1904 the Secretary's report showed thirty-five stores in the Association transacting an annual business of about \$3,000,000.00. The majority of the stores declared dividends of eight per cent upon capital stock and from seven to eight per cent upon purchases.

The Washington State Co-operative Union was organized in December, 1903, as the result of the conference between fifteen co-operative associations. In 1905 the Union had twenty-four members, comprising creameries, stores, and several shingle mills.

These three States, Kansas, California, and Washington, are the only ones in which state Co-operative Unions exist. In the future we may expect to see more extensive developments along this line. Even at the present time active steps are being taken to organize the co-operative societies of several other States.

THE CO-OPERATIVE ASSOCIATION OF AMERICA.

In 1901 the "Co-operative Association of America" was organized under the laws of Maine with a capitalization of \$10,000.00, ninety per cent of which is held in trust by a corporation known as the "Co-Workers Fraternity Company of Boston." It is the intention of the former association to begin the co-operative organization of industry upon a small scale and extend its scope gradually through all fields of activity. By this means it is hoped to systematize the production and distribution of wealth in the United States so that the workers may obtain the full product of their toil. Mr. Bradford Peck, who is the originator as well as the President of the Association, "conceives that the business of life can be conducted as a World Department Store, each industry being a part of his co-operative scheme. Farms will be purchased, factories will be erected, supply stores will be built in the principal cities, and sample

stores in the towns, and under the system all those engaged in any capacity are partners in the enterprise and receive what their labor has produced."¹ Thus far, however, the association has confined its activities to the establishment of two co-operative stores (one of which has already failed), a restaurant, a publishing house, and several other enterprises. It is safe to say that the ideals of this organization will never be realized.

In 1904 the promoters of the "Co-operative Association" thought that it were better to make a start along more practical lines and herefore established what they called "The Co-operative Exchange of Boston." This is an association having two departments, an educational and an industrial bureau. The former is to "build up retail co-operative societies here and there," while the "industrial bureau will organize the wholesale and jobbing field so that there will be the least possible waste between the manufacturer and the consumer."² The real object of the "Exchange" to quote its Secretary is

"To obtain as many members among the retailers as possible. Then by consolidating trade and bunching the orders, these members will be able to secure advantages in the market which will give them corresponding advantages at home. We wish to have as many co-operative stores as possible for members of the "Exchange" and shall systematically encourage the conversion of privately owned stores into co-operative stores."³

We thus see that the organization is nothing more than a co-operative purchasing association composed both of co-operatively and of privately owned stores. It is also the desire of the society to assist in the establishment of co-operative societies and to such enterprises the "Exchange" will serve as a wholesale house, in which they will be part owners. The purposes and organization of this association are similar to those of the Co-operating Merchants' Company of Chicago, Ill. No reports concerning its success or failure have been given to the public as yet, but there seems to be no reason why such an association should not be very successful in co-operative purchasing for its members.

¹ Extract from a circular issued by the Association.

² American Co-operator, Jan. 30, 1904.

³ Letter from R. Albertson, Secy. of the "Co-operative Exchange."

In 1903 it was estimated that there were at least two hundred co-operative stores in the United States, representing 60,000 members and transacting an annual business of approximately \$7,000,000.¹

THE NATIONAL CO-OPERATIVE LEAGUE.

At the 1903 meeting of the Rochdale Wholesale Company on February 17, it was decided that steps should be taken to call a national convention of all co-operative institutions in the United States with the intention of establishing a closer relationship between the different societies. This call was subsequently signed by other associations and the date of the convention was set for June 16, 1904, at St. Louis. The purpose of the convention as set forth in the call was as follows:

"It is intended that an unincorporated federation of all the co-operative interests of the country be formed in order to promote business interests, educational and organization work, and arrange for the holding of annual congresses."

In connection with this conference, it was hoped that

"Each national division of the co-operative movement such as the Rochdale Co-operators, or the various farmers' associations, not already organized nationally would meet at the same place and perfect their national organization along the same lines."

The advocates of the Rochdale method of co-operation were the only ones who made use of this opportunity to get together and organize a national society for a separate branch of the co-operative work. These representatives came from the Pacific Coast and from the North Central States, where the Rochdale Wholesale Company and the Right Relationship League respectively are the advocates of the Rochdale ideas. These delegates met Tuesday, June 14th, 1904, and after some discussion "adopted a definite system of organizing co-operative associations throughout the United States to the end that such associations shall be organized uniformly."² The system thus adopted consisted in the following requirements:

In the matter of the division of profits of each association,

¹ Prof. Frank Parsons, *Arena*, Vol. 30, p. 164.

² Minutes of the meeting as reported in "Mixed Stocks," Vol. 32, p. 75.

the rules and regulations shall provide that from the net profits each year—

First—Eight per cent shall be paid on share capital.

Second—A fixed per cent shall be set aside for educational and organizing purposes.

Third—The balance of the net profits shall be divided among the members or shareholders in proportion to their purchases.

The following matters also shall be fully provided for by uniform rules and regulations:

A.—A system of nominating and electing all officers, which will enable members to vote by mail, no voting by proxy—one person to have one vote only.

B.—Goods bought and sold for cash or its equivalent.

C.—Goods sold at prevailing prices—no cutting of prices.

D.—Regular employes to be paid fixed salaries; to be placed under bonds, and expected to become members.

E.—Retail stores each to own an equal interest in a co-operative wholesale store.

F.—Pure goods handled and full weights given.

G.—The interests of the producer, the capitalist, and the customer harmonized by treating each with fairness and justice.

A national association was also organized by these delegates which in the future should have charge of the educational and organizing work now being carried on by the Right Relationship League and the Rochdale Wholesale Company. This association was to be known as "The National Co-operative League." So far as we have been able to learn, it has done nothing towards the propagation of co-operative ideas up to the present time.¹

Two days later the National Convention assembled. A large number of delegates were present from all parts of the United States and the various phases of co-operation were presented by different speakers and fully discussed. Nothing further was done than to appoint a committee which was to call another national conference in 1905. A bureau was also inaugurated which was to gather statistics relating to the status of the co-

¹June, 1905.

operative movement in America. Thus far no report has been made concerning the results of any investigations which may have been carried on, and it is doubtful if any ever will be made.

PRESENT DAY CONDITIONS.

We now come to a hasty review of the conditions in the co-operative world as they exist at the present time, June, 1905. After a most careful investigation covering somewhat more than a year, the names of 343 co-operative stores, engaged in business in this country were obtained. The following table explains the location of these establishments as grouped into their respective states.

State.	Number of Co-op. stores.	State.	Number of Co-op. stores.
Alabama		Michigan	18
Arizona	1	Minnesota	12
Arkansas	2	Mississippi	
California	68	Missouri	1
Colorado	2	Montana	4
Connecticut	4	Nebraska	1
Delaware		Nevada	
Florida		New Hampshire	3
Georgia		New Jersey	1
Idaho	4	New York	16
Illinois	8	North Carolina	1
Indiana	2	North Dakota	2
Iowa	17	Ohio	13
Kansas	34	Oregon	2
Kentucky		Pennsylvania	14
Louisiana		Rhode Island	
Maine	9	South Carolina	
Maryland		South Dakota	
Massachusetts	26	Texas	17
Tennessee	1	Vermont	2
Utah	5	Washington	22
Virginia		Wisconsin	30
West Virginia			
Wyoming		Total	343
Oklahoma	1		

From the above it will be seen that California leads the list with 68 stores followed by Kansas with 34, Wisconsin with 30 and Massachusetts with 26. Judging from the returns received from 170 of these establishments, the above 343 stores represent an estimated capitalization of \$8,520,809.00, a membership of approximately 76,146 persons, and a trade of about \$265,526,743.00. A more detailed discussion of the present status of the co-operative stores will be found in chapter VI of this monograph.

CHAPTER IV.

CAUSES FOR THE STARTING OF CO-OPERATIVE STORES.

The origin and development of co-operative stores in the United States have been radically different from their origin and development in other countries. In the latter they have been the result of a long series of evolutions, of natural consequences. The co-operators had no examples after which they could pattern. In England the attempts at co-operation sprang solely from local conditions, until with the establishment of the English Wholesale House and the Co-operative Union an effective means for a more thorough and active propaganda from a central source was afforded.

In the United States, however, the situation has been entirely different. With England as an example the co-operators have been enabled to avoid many of the greater difficulties concerning the organization of co-operative stores, but we find that even with this assistance, very few of the latter have survived for any length of time.

Then again we have seen that instead of being the results of local conditions they have usually been the consequences of various farm and labor movements, movements which as a rule had for their object the betterment of the conditions of a certain class in society. From 1830 to 1840 the subject of co-operative stores was quite prominent among the members of the New England Association of Farmers and Mechanics. During the remainder of the century it was successively agitated by the Workingmen's Protective Association, the New England Protective Association, the Patrons of Husbandry, the Sovereigns of Industry, the Knights of Labor, the Farmer's Alliance and various other organizations, each in its turn.

Underlying the work of these associations, however, were various causes which induced them to enter upon the establish-

ment of co-operative stores. First of all was the desire of the people for lower prices upon things purchased. Wages never have been as high as the wage earner would desire them to be. Consequently we find him very willing to try anything which will increase his purchasing power. That prices are unduly high is a foregone conclusion, as has always been the case throughout all times. High prices, however, are the result of many causes. The middleman who stands between the producer and the consumer must get his profits out of the sales of the goods. Besides this, he must obtain an amount which will enable him to pay all expenses of handling the goods. These, under a competitive system of distribution, are unreasonably and needlessly high, because of the wastes of advertising, delivery of goods, clerk hire, bad debts, the credit system, and many other sources of expense. The desire to eliminate the middleman above all else has been the object of all co-operators.

Sentimentalism, and the hypnotic effects of the word "Co-operation" together with the beautiful imaginative pictures painted by its advocates, will largely account for a large number of the co-operative ventures undertaken in the United States.

In Massachusetts the movement has always been very strong because a large number of persons who have settled in that commonwealth came from England, the home of Co-operative Distribution. They have learned of its benefits from the stores of their mother land and have always tried to introduce such enterprises into this country.

In Kansas the strength of the movement is due primarily to the ever recurring failures of the crops, which necessitates the saving of every penny by the farmer in order that he may be able to tide over a bad season, and secondly, to the oppression of the grain and railroad trusts.

The lessons in co-operation, or in the association of efforts, as taught by the Unions have also been of great value in the establishment of co-operative stores. In many cases the Unions are going into the work of starting such societies. This is true to a surprising extent among the miners of the Eastern States.

The conditions of these localities are peculiar and the causes for this unprecedented activity in the co-operative field are first and primarily the oppression of the company or pluck-me stores, and secondly, the articles upon "Co-operation" written by John Mitchell, President of the United Mine Workers Union, as the result of his travels through England and Scotland during the summer of 1904. These articles were printed in many newspapers and assisted greatly in spreading information concerning the value and the results of the English co-operative movement. Of late, however, the Unions have adopted the co-operative store as a weapon of self-defence in their fight against the Citizens Alliance. This latter organization is a union of retail merchants and professional men whose avowed intention is the destruction of the trade unions. The workers thus find that when they trade at a privately owned store, they are but paying money into the treasury of their enemies, for as a rule the majority of the retail merchants in a city of any size belong to the Citizens Alliance. Hence in order to protect themselves and at the same time attack the latter organization, the union men start co-operative stores. The best example of this is to be found in the case of late Colorado mining strike, during which the Western Federation of Miners undertook to follow this peaceable policy of attacking the Alliance, and were met with the violent and determined resistance of the members of that organization. W. B. Haywood, Secretary and Treasurer of the Federation describes the matter in a personal letter to the writer in the following manner:

"The stores that were originally owned by the Western Federation of Miners in the Cripple Creek District were started as an outgrowth of the Cripple Creek strike. Practically all of the men employed in the mining industry were members of the Western Federation of Miners. When the strike was inaugurated the merchants, nearly all of whom belonged to the Citizens Alliance, and who had conducted a credit business, immediately cancelled the credit of the miners who were on strike. It became necessary to establish a base of supplies, and as many of our members were employed on fair properties, or rather those that were being operated on the open shop system, the demand was made for a store where their supplies could be purchased from others than those who were our recognized enemies.

The result was that grocery stores and butcher shops were established by the Western Federation of Miners in the towns of Victor, Goldfield, Cripple Creek and Anaconda. The business of these stores flourished. Aside from being the distributing points for members of our organization, who were on a strike, they had a large cash business, which was not by any means confined to the members of the Federation who were employed, but enjoyed the patronage of all classes. Reports from the manager of the Victor store show that the earnings on capital invested was 98 6-7% for a term of operation of seven months and nine days. At the time this report was made, the average daily transactions amounted to \$439.66. It is useless to go into detailed report, as the stores are not being operated at the present time, as they were totally demolished by a mob of the Citizens Alliance, and the State Militia on the 6th day of June last (1904), so that in writing a report now, it would simply be a post mortem of a co-operative enterprise that was at one time destined to practically control the commercial interests of the great mining district of Cripple Creek. The successful management of the stores displayed the ability of the organization to conduct such institutions for the benefit of its members, and it will surely be developed to a greater extent in the near future."

The growth of Socialistic propaganda has also had considerable influence upon the later developments in the field of Co-operative Distribution. The advocates of Socialism have spread their doctrines over the entire country, have taught the people about the tremendous wastes of our present system of industry, and have preached the principles of co-operation to the masses as the only solution of the problem. The people have become awakened to the possibilities of co-operative effort and are willing to try the application of the principle in the matter of retail stores.

The movement which within the last five years seems to be setting in again towards the establishment of co-operative enterprises, arises from causes which for the most part are entirely different from those so prominent in the earlier part of the century. In the first place the rapid economic development, which we have been experiencing, has resulted in the growth of a social solidarity, the extent of which was unthought of in the history of the nation. Secondly, the formation of the trust

has made possible the charging of monopoly prices, and the consequent demand for lower prices. A feeling of economic dependence has also become more and more prevalent among the people. But back of this intangible growing spirit of co-operation stand the various organizations which are so active in moulding and directing this spirit into definite channels. In the East,¹ the Mississippi Valley,² and upon the Pacific Coast,³ associations exist for the purpose of founding co-operative stores and assisting in the management of the same.

Thus it is that born and nurtured in the farm and labor movements of this country, originating in a manner entirely different from that of the English stores, the American movement has at last reached the same stage, i. e., the stage wherein the co-operative movement is directed and assisted by means of various central educational organizations.

¹The Co-operative Exchange. See p. 36.

²The Right Relationship League. See page 34.

³The Rochdale Family. Page 32.

CHAPTER V.

CAUSES FOR THE FAILURE OF CO-OPERATIVE STORES.

"In this country Co-operative Distribution has been marked by almost utter failure. So universal has been the disaster that has followed all attempts to save money in purchasing goods of any kind, that the name 'Co-operative Store' has become to the ordinary mind a term of derision."¹

The causes for this almost universal failure of the co-operative movement are manifold, and many of them are peculiar to this country and to the American people.

During our discussion of the history of co-operative stores in the United States, we noticed that in the past the greatest cause for the failure of these enterprises was the collapse of the farm and labor movements which gave them birth. The people, for the most part, were held together in the association purely because of their membership in these labor and farm organizations. With the decay of these movements it was but natural to expect that the bonds which held the members would be readily dissolved and the stores subsequently abandoned.

Furthermore, ever since its commencement, the co-operative movement in the United States has never been satisfactorily organized. Even to-day there are but three States which have any kind of an organization, and in none of these is it what it should be. Fought from all sides as are these co-operative enterprises, it is surprising to realize how few attempts have been made to organize them into protective associations. It is still more surprising to find the lack of information which exists among the co-operators relative to the whereabouts and the status of co-operative stores. Managers of associations in one county do not know that other similar organizations are to be found in

¹Barnard, *Co-operation as a Business*, p. 109.

the adjoining county, and when it comes to the matter of the co-operative movement in the State at large, there is no one who is able to give a complete list of the stores or their location. This is due primarily to the fact that the associations have no central organization to which they can make reports. In but three States are annual meetings held for the discussion of co-operative matters by the co-operators themselves, while but two attempts at holding a national convention have ever matured. The success of the latter in neither case was very gratifying. The convention at St. Louis in 1896 was very poorly attended and resulted in nothing whatsoever of lasting importance, while the 1904 convention in the same city accomplished but little more. Compare these feeble efforts with the solid organizations of the retail grocers, the jobbers, and the wholesalers! It is at the meetings of the latter associations that ideas are exchanged, experiences are "swapped," and plans for the defeat of obnoxious legislation are made. Nothing is more conducive to the progress of the commercial world than are these State and National conferences, and it is this thorough organization which is the greatest need of the co-operators of to-day as it has always been in the past. Annual conventions of co-operative societies should be held in each State. These associations should elect representatives to a National Co-operative Congress which should likewise be held each year. Without such conferences, without state and national organization, we may expect to see the continued failure of the co-operative movement.

Another cause for the many wrecks which lie strewn over the field of Consumers' Co-operation is the fact that in times past there have been no wholesale houses from which the retail co-operative stores could obtain their supplies. They have been forced to purchase their stock from the same wholesale house as the other retail merchants. The latter have consistently been successful in forcing the wholesaler to discriminate against the co-operative stores, and the consequence has been that the latter have had to pay higher prices for all goods purchased. In some instances the wholesalers have absolutely refused to deal with the co-operators. These things cannot help but result in placing the latter at a disadvantage in the sale of goods to

the public, and have been a fruitful source for the failure of these co-operative enterprises. To-day we have two wholesale houses for the co-operative stores, one of which is composed entirely of co-operative societies,¹ and the other but partly.² These have proved to be a godsend to the movement and have greatly assisted in its upbuilding. It is expected that many more of these wholesale companies will be started in the future as a result of the continued development of the co-operative movement.

The competition of "5 and 10 Cent Stores," department stores with their attractive advertisements and bargain days, trading stamp schemes, the low prices of the mail order houses, all have caused the death of many a co-operative society.

Then too there is that lack of the true co-operative spirit. We Americans are primarily a selfish people. We have always been very individualistic in our ideas and actions. We have been accustomed to enjoy the bounties of Nature, the privilege of taking up land, of shifting our residence to accept new employment if the conditions of the old were not satisfactory. All of these things have made us an independent people in most of our actions. We dislike to surrender our individuality to the will of the majority. We are also a heterogeneous people, composed of many nationalities, and as is the case with such nations, it has been a difficult task to weld the different races into a homogeneous body, a body which will work and labor towards an ideal or goal as one people. Likewise we lack that fixity of population, that neighborhood life, which is so characteristic of European countries. Our industrial system makes it necessary for the laborer to travel from place to place in search of work. Employment is never certain, and any man would be considered foolish who would invest a hundred dollars in an enterprise when he fully realized that perhaps within six months at the most, he might be forced to leave the city in search of employment. Those things, which we Americans lack, are common characteristics of European peoples among whom co-operation has been so successful. In England the child

¹The Rochdale Wholesale Co., San Francisco, Cal.

²The Co-operating Merchants Co., Chicago, Ill.

grows up and remains in the city of his ancestors, while the worker is content to enter any movement which will mean the saving of even a small sum to himself, for he knows that only by such means can he better his condition.

We are also an impetuous people. We lack patience. We dislike to wait for the accumulation of dividends, and would rather trade at those stores which give "green trading stamps." If the enterprise in which we are interested does not prove to be immediately successful, we lose heart and turn our energies to other fields. Success in co-operation, however, "requires the greatest humdrum patience." "Men must bear and forbear, persevere and learn wisdom by their mistakes. Courage to hold on through the first year or two of blundering and adversity is the price of permanent success."¹ But to us Americans "the prizes in the lottery of life are more inviting than the humble shilling on the pound of co-operative saving."² Our comparatively high standard of living has not forced us to acquire the penny saving habit so common among the Europeans. We would rather give profits to the merchant as his pay for the management of the retail business of America than bother ourselves with the intricacies of the matter.

As workers we fear to risk our small savings by investing them in enterprises which have so consistently proved to be nothing more than failures in the past. We also desire a wide choice of goods from which to pick whenever we enter a store. As Americans, we have not become accustomed to the simple and monotonous meals of the Europeans. We desire variety of food as well as variety of clothing. The co-operative stores, however, owing to their limited capitalization, cannot furnish us with this wide choice of goods. Hence we usually trade at other places even though we are members of the co-operative association. This lack of loyalty on the part of the members has been a very important factor in the failure of the co-operative movement in the United States.

Limited capitalization also makes it impossible for the store to buy in large quantities and thus take advantage of many

¹ A. Shaw, Vol. 1, Am. Econ. Assn. Pub., Monograph 2, p. 99.

² Feabody, Forum, Vol. 8, p. 283.

other of the business practices which can only come with an access to a large amount of capital stock.

In this country we have also noticed that the movement has been prevalent almost exclusively among the working classes and the farmers. In England, however, "co-operation has had the assistance of rank and wealth and education, advising, encouraging, and participating in its movements."¹ This has proved to be of incalculable aid to the co-operators in that country and it is to be regretted that such has not been the case in the United States.

The need of these societies in this country as educators, savings banks, places of meeting and recreation, which makes them so important a factor in the life of Europeans, is supplied by other activities. We have our excellent public school system, free libraries, public lectures, University Extension courses, and various other institutions through which the people are educated, while private savings banks, building and loan associations and insurance policies teach them the lessons of thrift and frugality.

The injection of the discussion of religion and politics into the meetings of the societies has likewise resulted in the dissolution of many of them.

The greatest cause of all, however, is the lack of business knowledge, so conspicuous among the co-operators. They take a man from his plow, like Cincinnatus of old, and place him in charge of a co-operative store expecting that he will carry on the business satisfactorily. Or as it often happens, a man will be called from behind a machine in the factory, after having had no business experience other than the payment of bills which his wife may have contracted, and placed behind the manager's desk. The usual result is that sooner or later the co-operators find that the person in whom they have placed their faith is either incompetent or dishonest, and the store is a failure. Poor business methods, injudicious purchases, over-stocking, wastes in weighing and many other practices, all of which bring disastrous results, are very prominent in the co-operative movement. These together with the universal ignorance of the co-

¹ Mass. Bureau of Labor Statistics. 1873. p. 350.

operators regarding business matters, and the lack of loyalty displayed by them, have been, in general, the fundamental causes for the failure of these stores.

Many of these causes will be, and are now being, removed by the evolution of the industrial world. Co-operative leagues are organizing the movement upon a firmer basis than ever before. Experienced managers are being engaged by the co-operators to conduct the business for them. Wholesale houses for the co-operative societies exist in the Mississippi Valley and upon the Pacific Coast. But above and beyond all, the rapid growth of social solidarity among the American people cannot help but give the movement a more solid basis, a basis upon which in future years it will be possible, though not necessarily probable, that the greatest co-operative movement, that the world has ever witnessed, may be raised.

CHAPTER VI.

PRESENT STATUS OF CO-OPERATIVE STORES IN THE UNITED STATES.

In order to obtain accurate statistics concerning the status of co-operative stores in the United States a schedule was sent out by this department to all the co-operative stores which were known to be in existence. This schedule contained questions inquiring as to the number of stockholders, the amount of capital stock, the aggregate sales and expenses, the kind of business in which they were engaged, the rate of dividends paid on purchases and on capital stock, and various other matters.

Many of the establishments refused to answer the questions asked, while others gave but partial returns. The accompanying charts contain the tabulations of the results of the investigation, the states being arranged in alphabetical order.

Gurnaville Roch. Co., Gurnaville	June, 1903	R. W. C.	5,500 00	55	53,000 00	5,800 00	11	3	8	3	.....
Headland Roch. Co., Headland	.....	R. W. C.	14,500 00	145	.....	.....	.....	.....	.....	.....	.....
Hopland Rochdale Co., Hopland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
King City Roch. Co., King City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lakeport Co-Op. Assn., Lakeport	Feb. 1903	R. W. C.	8,500 00	85	46,000 00	4,800 00	10	5	8	.....	.....
Le Grand Roch. Co., Le Grand	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lindsay Rochdale Co., Lindsay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leomin Rochdale Co., Leomin	Nov. 1904	R. W. C.	4,600 00	46	.....	.....	.....	.....	.....	.....	.....
Napa Rochdale Co., Napa	Jan. 1904	R. W. C.	3,400 00	34	14,000 00	1,800 00	13	5	.....	.....	.....
Napa Rochdale Co., Napa	Oct. 1903	P. H. C.	10,000 00	107	32,000 00	3,300 00	10	4	7	.....	.....
West Side Roch. Co., Newman	July, 1903	R. W. C.	6,400 00	64	10,000 00	1,000 00	10	2	10	.....	.....
Newcastle Roch. Co., Newcastle	.....	P. H.	3,000 00	30	.....	.....	.....	.....	.....	.....	.....
Calif. Co-Op. Meat Co., Oakland	June, 1904	B. U.	12,000 00	1,200	130,000 00	31,726 91	16	40	.....	.....	.....
Oakland Rochdale Co., Oakland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oakland Rochdale Co., Oakland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penn Grove Roch. Co., Penn Grove	Aug. 1903	R. W. C.	5,000 00	52	85,000 00	37,000 00	43	3	5	1	.....
P. F. Richmond R. Co., P. F. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pomona Co-Op. Co., Pomona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Porterville Roch. Co., Porterville	Mar. 1895	F. A.	4,100 00	41	11,159 14	983 54	9	1	7	64	.....
Porterville Roch. Co., Porterville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Potters Valley Roch. Co., Potters Valley	Jan. 1900	R. W. C.	5,400 00	54	.....	.....	.....	.....	.....	.....	.....
Redding Roch. Co., Redding	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sacramento Roch. Co., Sacramento	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Bernardino R. Co., San Bernardino	Jan. 1903	R. W. C.	1,500 00	100	26,156 00	1,536 00	6	3	6	3	.....
San Diego Roch. Co., San Diego	Sept., 1900	R. W. C.	17,500 00	175	34,000 00	2,500 00	7	4	.....	.....	.....
San Francisco Roch. Co., San Francisco	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stockton Rochdale Co., Stockton	Jan. 1900	F. A.	60,000 00	60	262,000 00	14,000 00	5	10	8	.....	.....
Tulare Rochdale Co., Tulare	April, 1903	R. W. C.	10,200 00	102	24,632 43	3,569 24	13	5	.....	.....	.....
Vallejo Rochdale Co., Vallejo	Jan. 1905	R. W. C.	5,300 00	53	.....	.....	.....	.....	.....	.....	.....
San Miguel Roch. Co., San Miguel	Jan. 1905	R. W. C.	4,400 00	110	12,786 74	2,318 63	16	3	.....	.....	.....
Santa Barbara Co-Op. Assn., S. B.	Aug. 1899	R. W. C.	4,400 00	110	50,000 00	4,000 00	8	4	10	.....	.....
Santa Paula Co-Op. Assn., S. P.	June, 1895	F. A.	10,000 00	60	74,865 00	4,254 26	6	5	.....	.....	.....
Santa Rosa Roch. Co., Santa Rosa	Mar. 1901	R. W. C.	8,679 00	124	.....	.....	.....	.....	.....	.....	.....
Sebastopol Roch. Co., Sebastopol	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Selma Rochdale Co., Selma	Feb. 1901	R. W. C.	8,000 00	80	32,760 00	4,500 00	14	3	8	5	.....
Stockton Roch. Co., Stockton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tulare Rochdale Co., Tulare	Oct., 1902	R. W. C.	13,500 00	135	106,000 00	9,450 00	8	10	8	4	.....
Vallejo Rochdale Co., Vallejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valley Ford Roch. Co., Valley Ford	July, 1901	R. W. C.	15,000 00	150	*15,502 30	*2,339 66	15	4	8	.....	.....
Vineville Rochdale Co., Vineville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Watsonville Roch. Co., Watsonville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodland Roch. Co., Woodland	Jan., 1904	R. W. C.	8,500 00	85	47,888 07	4,884 52	12	4	8	.....	.....
Woodland Roch. Co., Woodland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals and averages	.....	.....	\$334,379 00	4,701	\$1,330,467 80	\$196,097 20	15	103	8	4	.....

* Sales and expenses for only six months.

STATES.	Date of starting.	Cause of starting.	Capital stock.	No. of stockholders.	Sales.	Expenses.	Per cent. of ex- penses of sales.	Em- ployes.	DIVIDENDS ON PURCHASES.		
									Divi- dends on capital stock.	To mem- bers	To non- members
									Per cent.	Per cent.	Per cent.
COLORADO											
Co-Op. Store, Cripple Creek.....	Sept., 1905		\$6,200 00	208	\$56,000 00			10	5		
Co-Op. Mercantile Co., Salida.....			\$6,200 00	208	\$56,000 00			10	5		
Totals and averages.....											
CONNECTICUT											
Co-Operative Store, Hartford.....	April, 1903		\$7,000 00	38	\$51,511 04	\$7,254 71	13	8	35	2	
Co-Operative Store, Middletown.....	Sept., 1903		3,000 00	79	20,000 00	2,650 00	13	5	5	2 1/4	1 1/4
Union of Yale Co-Op. St., N. Haven.....	Sept., 1883		†	1,200	53,924 86	6,728 63	11	10			
Sovereigns' Trade Co., New Britain.....											
Totals and averages.....			\$10,000 00	1,318	\$130,435 90	\$16,631 34	13	23	20	2	1
IDAHO											
Nes Perces Co. R. Co., Coldsac.....	May, 1904	R. W. C	\$10,000 00	35	\$12,000 00	\$1,260 00	10	2			
Co-Operative Store, Weston.....	1893		10,000 00	20	10,000 00	1,200 00	12	2			
Co-Operative Store, Blackfoot.....											
Co-Operative Store, Idaho Falls.....											
Totals and averages.....			\$20,000 00	55	\$22,000 00	\$2,460 00	11	4	4		
ILLINOIS											
McClellan Co. Co-Op. Co., Springfield.....	Nov., 1904		\$10,000 00	325				6			
Union Co-Op. Store, Champaign.....	Jan., 1905		1,100 00	550				8			
Cal'd Mont's Co-Op. Store, Chicago.....											
Milw. Ave. Co-Op. Store, Chicago.....											
Le Claire Co-Op. Store, Edwardsville.....	Oct., 1902		5,000 00	110	20,000 00	1,440 00	12	3	6	5 1/4	2 1/4
Co-Operative Store, Herrin.....											
Co-Operative Store, Marion.....											
Co-Operative Store, Pana.....											
Totals and averages.....			\$16,100 00	985	\$20,000 00	1,440 00	12	12	6	5	3
INDIANA											
De Kalb Co. Co-Op. Co., Butler.....	Nov., 1904	R. R. L.	\$35,000 00	75			9				
Employees Co-Op. Co., Garrett.....											
Totals and averages.....			\$35,000 00	75			9				

† Sales for seven months. ‡ No capital stock.

IOWA—	Aug., 1904	U. M. W.	\$5,500 00	255	\$30,000 00	13	5	6	2
Iowa Reel Co-Op. Ass'n, Albia.	Aug., 1903		2,500 00	90			5	6	6
Farmer's Supply Co., Anita.									
Co-Op. Store, Albert City									
Iowa Reel Co-Op. Ass'n, Buxey									
Farmer's Alliance Store, Crescen									
Co-Op. Ass'n, Dougherty.									
Leona Reel Co-Op. Co., Lucas									
Scandia Trading Co., Marathon	May, 1889		8,420 00	48	43,341 57	6	4	15	
Farmer's Co-Op. Sup. Co., Milford	Sept., 1904		10,000 00	85			1		
Minburn Co-Op. Ass'n, Minburn	Mar., 1891	F. A.	2,500 00	120	60,000 00	5	5		
Co-Op. Store, Muscatine									
Nassau Co-Op. Store, Nassau									
Farmer's Supply Co., Nowell	June, 1886		10,000 00	208	31,000 00	8	3	6	10
Co-Op. Store, Belwin									
Farmer's Co-Op. Soc., Rockwell.	Mar., 1889		5,000 00	33	12,000 00	9	2	45	
Sherman Mer. Co., Sherman	Feb., 1904								
Co-Op. Store, Solberg									
			\$36,920 00	839	\$176,341 57	\$13,238 64	26	16	6
Totals and averages									2
KANSAS—	Feb., 1903		\$5,000 00	120	\$25,000 00	8	4	10	4
Austin Co-Op Ass'n, Assaria									
Barnes Co-Op. Ass'n, Barnes									
Patrons' Co-Op. Ass'n, Caddoas	1876	P. H.	6,385 40	200	43,022 40	7	5	6	6
Centron Co-Op. Ass'n, Centon	1892		16,000 00						
Co-Op. Society, Chilesburg									
Colman's Co-Op. Store, Colman's									
Conneligh Co-Op. Ass'n, Conneligh									
Co-Op. Store, Denton									
Village Co-Op. Store, Edgerton									
Garfield City Co-Op. Ass'n, Gar City									
Co-Op. Store, Garfield	1878	P. H.	7,000 00	800	30,000 00	19	2	8	
Alliance Co-Op. Ass'n, Green	April, 1890	F. A.	50,000 00	90	20,800 00	10	3	8	3
Boysen Co-Op. Ass'n, Guyton									
Industry Mer. Co., Industry	1903		30,000 00	500	138,000 00	12	30	8	4
Avenger Co-Op. Ass'n, Kismet	1885	F. A.	4,000 00	35	28,000 00	6	4	17	
Kinsley Co-Op. Ass'n, Kinsley	1903		12,000 00	208	32,000 00	10	7	8	4
Lucas Co-Op. Ass'n, Lucas	1904		10,000 00	110			8	2	3
Labette Co-Op. Co., Labette	June, 1902		3,000 00	89	12,000 00	8	8	13	
Lucas Co-Op. Ass'n, Lucas	1904		25,000 00	50			10		
McPherson Co-All'n, McPh.	Sept., 1904	F. A.	50,000 00	482	86,728 48	8	11	6	6 1/2
Macpherson Co-Op. Ass'n, Macpherson	Aug., 1890		5,000 00	50	15,000 00	8	3	10	5
Co-Op. Store, New Lancaster	Nov., 1904	P. H.	2,000 00	75			1		
Unit of Kan Co-Op. St. Maurlan									
Decatur Co-Op. Ass'n, Oberlin	Oct., 1902		50,000 00	400	104,000 00		10		6

[illegible]

STATES.	Date of starting.	Cause of starting.	Capital stock.	No. of stockholders.	Sales.	Expenses.	Per cent. of expenses of sales.	Em- ployes.	DIVIDENDS ON PURCHASES.	
									Divi- dends on capital stock.	To non- members
									Per cent.	Per cent.
MINNESOTA—Cont.	Sept., 1904	R. R. L.	\$50,000 00	100	\$25,000 00	\$2,500 00	10	5		
		Mer. Hall's								
		Kitson Co. E. Co-Op.								
		Patners Mer. Co., Lake Crystal								
	Mar., 1905	Pioneer Mer. Co., Lake Crystal	12,500 00	96				5		
		Farm. Mer. Co-Op. Co. Montrose								
	April, 1904	Co. Operative Store, Pequot	900 00	60				3		
	June, 1903	Red Wing Co-Op. Co., Red Wing	35,000 00	115	83,000 00	7,500 00	9	15	9	
	May, 1904	Rafferty & Wreck Co., Ste. Valley	100,000 00	168	100,774 09	14,773 61	14	18	10	3
		Scan, Co-Op. M. Co., Two Harb'rs								
		Zumbrota M. & E. Co., Zumbrota								
Totals and averages										
			\$207,860 00	843	\$229,794 54	\$27,361 12	11	46	3	10
MISSOURI—	Sept., 1900	Uni. of Mis. Co-Op. St., Columb's	\$25,000 00	1,486	\$20,414 00	\$1,865 91	9	3		10
		Totals and averages	\$25,000 00	1,486	\$20,414 00	\$1,865 91	9	3		10
MONTANA										
		Gray Cliff Co-Op. St., Gray Cliff								
		Co-Operative Store, Great Falls								
NEBRASKA	Jan., 1905	Co-Op. As. of W. Mont., Missoula	\$100,000 00							
		Co-Op. Mer. Co., Red Lodge								
		Totals and averages	\$100,000 00							
NEBRASKA—										
		Co-Operative St., Grand Island								
		Totals and averages								
NEW HAMPSHIRE—										
		Franklin Co-Op. Assn., Franklin								
		German Co-Op. Assn., Manchester								
NEW HAMPSHIRE—	May, 1902	Nashua Co-Op. Assn., Nashua	\$1,000 00	130	\$10,000 00	\$1,200 00	12	2		2
		Totals and averages	\$1,000 00	130	\$10,000 00	\$1,200 00	12	2		2

* For five months only.

New Jersey—											
Vineland Co-Op. Assn., Vineland											
Totals and averages.....											
New York—											
Brookville Union, Brookville.....											
Co-Operative Store, Delhi.....											
Deposit Co-Op. Co., Deposit.....											
Mohawk Val Co-Op. Co., Ft. Plain.....											
Grangers' Exchange, Herkimer.....											
Cornell Unit, Co-Op. St., Ithaca.....											
Jamestown Co-Op. S. Co., J. m. s. n.											
Lewiston Union, Lewiston.....											
Grangers' Mer. Assn., Little Falls.....											
N. Y. Ind. Co-Op. Soc., N. Y. City.....											
Poland Union Store, Poland.....											
Port Jervis Co-Op. Assn., Port Jervis.....											
Co-Operative Store, Scottsville.....											
Syracuse Un., Co-Op. St., Syracuse.....											
Lewiston Union, Talbotville.....											
Lewiston Exchange, Talbotville.....											
Totals and averages.....											
NORTH CAROLINA—											
Co-Op. Gr. Co., Wilmington.....											
Totals and averages.....											
NORTH DAKOTA—											
Steele Co. F. Co-Op. Mer. Co., Finley.....											
Traill Co. Co-Op. M. Co., Hatton.....											
Totals and averages.....											
OHIO—											
Ashtabula Co-Op. Co., Ashtabula.....											
Uni., Cincinnati Co-Op. Store, Cincinnati.....											
Capital City C. B. Ys. Co., Columbus.....											
Wood Co. Co-Op. Co., B. Green.....											
Co-Op. Coal Co., Dayton.....											
Ohio Co-Op. Store Co., East Palestine.....											
Totals and averages.....											

* For only three months.

[illegible]

STATES.	Date of starting.	Cause of starting.	Capital stock.	No. of stock-holders.	Sales.	Expenses	Per cent. of expenses of sales.	Em- ployes.	Divi- dends on capital stock.	DIVIDENDS ON PURCHASES.	
										To members	To non-members
WASHINGTON											
Whatcom Rock. Co., Bellingham	April, 1904	R. W. C.	\$25,000 00	25							
Rock. Mercantile Assn., Buxley	Feb., 1905	R. W. C.		18					8		
Centralia Rock. Co., Centralia	April, 1902	R. W. C.	5,500 00	115	\$27,044 08	\$2,635 00	10	4			
Labor Exchange Store, Clinton	Aug., 1885		15,000 00	30	16,000 00	600 00	4	1			
Lewis Co. Rock. Co., Chelalis	Sept., 1902	R. W. C.	15,000 00	225	80,000 00	12,000 00	15	7	8	5%	
Everett Co.-Op. Meat Co., Everett											
Francis Rock. Co., Frances		R. W. C.	4,350 00	150	10,000 00	1,000 00	10	1			
Co-Operative Store, Linnoclam											
Green Lake Rock. Co., Green Lake	April, 1905		10,000 00	50							
Co-Op. Assn., Hillward	Jan., 1904	R. W. C.	50,000 00	110	72,684 07	6,847 29	9	2	15	5	5
Horne Grocery Co., Home	Nov., 1903		150 00	30	7,000 00	320 00	4	2			
Hoquiam Rock. Co., Hoquiam		R. W. C.	10,000 00	52							
Olympia Rock. Co., Olympia	Feb., 1905	R. W. C.	10,000 00	40	18,000 00	1,275 00	7	3	15		
Oakville Rock. Co., Oakville	June, 1903	R. W. C.	3,680 00								
Pearson Co.-Op. Co., Pearson											
People's Union, Stanwood	Sept., 1903		5,000 00	192	30,000 00	2,400 00	8	3		6	
Rockdale Co., Rockwood	Sept., 1903	R. W. C.	2,800 00	52	14,000 00	1,400 00	10	2	8	4%	
Co-Operative Assn. Silverdale	June, 1900		2,000 00	20	20,000 00	2,000 00	10	2	7		
Co-Operative Co., West Sound											
Co Operative Store, Winlock	Jan., 1905	R. W. C.	6,000 00	69				4			
Totals and averages			\$138,980 00	1,178	\$294,728 15	\$30,477 29	10	40	10	5	5
WISCONSIN											
Arkansas Co.-Op. Co., Arkansas	Dec., 1900		\$18,000 00	150	\$85,000 00						
Co-Operative Store, Athens	April, 1893	P. I.	15,000 00	280	83,019 13	\$6,120 76	7	12	21	4	
Co-Operative Store, Black Earth									8		
Co-Operative Store, Bloodgett											
Farmers' Store Co., Bloomer	Sept., 1891		100,000 00	650	228,000 00	14,434 56	6	15	15		
Polk Co. Co.-Op. Store, Centuria	Feb., 1905	R. R. L.	4,200 00	42				2			
Co-Operative Co., Clifton											
Co-Op. Mercantile Co., Cumberland											
Co-Operative Store, Ellsworth											
Farmers' Store Co., Elk Mound											
S. Deum & F. Co.-Op.A., Fontenay	Sept., 1903	R. R. L.	24,289 00	289	10,700 00	12,000 00	11	11			

In the following table, the total returns of each state are given, the states being arranged in geographical divisions; Group I, comprising the Eastern Manufacturing States; Group II, the Southern Cotton States; Group III, the Central Grain States; and Group IV, the Western Mining States.

States.	Total number of co-operative stores.	Number making report.	Total capital stock.	Total number stock-holders.	Total sales of all stores reporting.	Total expenses.	Average per cent of expenses of sales.	Total number of employees.	Average dividends on capital.	Average dividends on purchases of non-members.
	* Per ct.	* Per ct.	* Per ct.	* Per ct.	* Per ct.	* Per ct.	* Per ct.	* Per ct.	* Per ct.	* Per ct.
Group I										
Maine.....	9	3	\$26,100 00	3	\$36,398 20	\$10,372 19	11	13	6	1
N. Hampshire.....	3	1	1,000 00	1	10,000 00	1,200 00	12	1	2	3
Vermont.....	2	1	1,000 00	1	10,000 00	1,200 00	12	1	2	3
Massachusetts.....	26	11	338,753 34	9	6,314 11	113,649 10	33	11	6	4
Connecticut.....	4	3	10,000 00	3	1,318 3	16,631 34	13	3	20	1
New York.....	16	8	53,464 00	7	1,837 8	38,427 97	6	11	5	3
Pennsylvania.....	14	3	15,380 00	3	40,287 72	30,867 61	1	58	2	4
New Jersey.....	1	1	15,380 00	3	40,287 72	30,867 61	1	58	2	4
Totals & av.	75	29	\$414,683 34	26	\$1,460,410 99	\$211,148 21	21	29	22	15
Group II.										
N. Carolina.....	1	1	\$3,000 00	1	36,800 00	\$680 00	1	1	1	5
Tennessee.....	1	1	1,000 00	1	102	1	10	1	7	5
Arkansas.....	2	1	1,000 00	1	102	1	10	1	7	5
Texas.....	17	9	235,435 00	9	1,616	6	16	9	7	11
Oklahoma.....	1	1	235,435 00	9	1,616	6	16	9	7	11
Totals & av.	22	11	\$236,435 00	11	1,724	7	13	11	49	3
Group III.										
Ohio.....	13	6	\$105,000 00	5	718	3	10	6	8	14
Michigan.....	18	11	342,960 00	10	3,059	11	11	10	8	7
Indiana.....	2	1	35,000 00	1	75	1	11	10	5	5
Illinois.....	8	3	16,100 00	3	965	1	12	3	6	1
Wisconsin.....	30	15	351,200 00	15	4,404	11	10	14	10	5
Minnesota.....	12	7	207,870 00	8	843	4	11	7	13	4
Iowa.....	17	7	31,920 00	7	889	5	11	7	16	3
Missouri.....	1	1	207,870 00	8	843	4	11	7	16	3
Kansas.....	34	19	407,185 40	18	4,369	15	14	18	13	9
Nebraska.....	1	1	50,000 00	1	102	1	1	1	2	5
North Dakota.....	2	1	50,000 00	1	102	1	1	1	2	5
Totals & av.	138	72	\$1,577,255 40	69	16,922	52	49	67	40	27

States.	Total number of co-op-erative stores.	Number making report.	Total capital stock.		Total number stockholders.		Total sales of all stores reporting.	Total expenses.		Average per cent. of expenses of sales.		Total number of employees.		Average dividends on capital.		Average dividends on purchases of mem-bers.	
			*	*	*	*		*	*	*	*	*	*	*	*	*	*
Group IV.																	
Colorado.....	2	1	1	6,200 00	1	208	1	58,000 00					1	10	1	5	
Montana.....	4	1	1	100,000 00													
Idaho.....	4	2	2	20,000 00	2	55	2	22,000 00	2	\$2,400 00	2	11	2	4			
Utah.....	5	1	1	1,077,000 00	1	650	1	1,246,886 03	1	438,863 48	1	10	1	50	1	10	
Arizona.....	1	1	1	150,000 00	1	72	1	38,000 00	1	7,000 00	1	20	1	5	1	6	1
California ..	68	33	36	384,879 00	36	4,701	27	1,350,867 80	27	198,687 20	27	15	35	168	23	8	15
Oregon.....	2	1	1	2,000 00	1	75											
Washington ..	22	15	13	138,980 00	15	1,178	10	294,728 15	10	30,477 29	10	10	13	40	6	10	4
Totals & av.	108	58	56	\$1,837,559 00	57	6,989	42	5,986,491 98	41	\$675,437 97	41	11	53	727	32	8	20
Grand totals and averages	345	170	165	\$4,098,932 74	163	36,286	133	10,636,939 00	118	\$1,179,965 39	118	12	160	1,060	102	9	72
																	27
																	4

* At head of a column means that in this column is placed the number of Co-operative stores making returns upon that specific matter.

Inasmuch as this investigation was carried on in a manner similar to that of Dr. E. W. Bemis in 1896 for the United States Department of Labor,¹ let us compare the results of the two investigations in so far as it is possible to do so.

Three hundred and forty-three co-operative stores were found to be in existence in the United States at the time of this inquiry.²

One hundred and sixty-five reported a capitalization of \$4,098,932.74 or an average capital stock of \$24,842.01. In 1896 according to Dr. Bemis twenty-eight stores which made returns at that time, had a capitalization of \$454,175.65, or an average of \$16,220.56.

One hundred and sixty-three stores reported 36,286 members, or an average of 222, while in 1896 thirty-three associations reported 16,807 members, or an average of 509.3.

One hundred and thirty stores had sales aggregating \$10,636,959.60 or an average of \$774,130.45. From the returns of 118 stores with sales aggregating \$9,856,637.82 and expenses amounting to \$1,179,965.39, we learn that the average ratio of expenses of sales was 12 per cent. This is somewhat higher than that shown by the twenty-eight societies in 1896 which reported an average ratio of only 10.2 per cent.

The dividends which were declared upon capital stock in 1905 by one hundred and two stores averaged 9 per cent, while those on purchases for seventy-two associations averaged 6 per cent. Comparing the latter with the figures obtained by Dr. Bemis, we see that the dividends on purchases today are larger than those paid by the twenty-nine stores making returns to him. At that time the average rate was 5.15 per cent.

Very few of the stores pay dividends on purchases to non-members, but from the returns of twenty-two of them we learn that the average ratio thus paid was only 4 per cent.

One hundred and twenty-eight of these societies, reporting an annual business of \$10,562,680.44 had 1,386 employes, the average business per employe amounting to \$7,700.34. In 1896 the annual trade of twenty-eight stores having 223 em-

¹Department of Labor Bulletin, Vol. 6, pp. 610-644.

²June, 1905.

ployes was \$1,586,345.40 or an average of \$7,113.66 per employe.

The majority of the stores are patronized to the greatest extent by the farmers. Out of one hundred and twenty-four stores reporting upon the question regarding whether the majority of their customers came from the city or the country, seventy of them answered from the latter, thirty-nine from the city, while fifteen stated that their custom was about equally divided between city and country.

The largest number of establishments deal in general merchandise and groceries, although we find one or two butcher shops, and several student supply stores.

Nearly all of the associations were begun upon a co-operative basis, very few of the stores having originally been privately owned.

Several of the societies have branch stores located in the same or nearby counties. The most important of these is the Johnson County Co-Operative Association of Olathe, Kansas, which has branch stores at Gardner, Edgerton, Stanley, and Prairie Center. This society was begun in 1876 by the Patrons of Husbandry, and has been very successful throughout its entire career.

The following table shows the number and location of branch co-operative stores in the United States:—

Main Store.	Branch Stores.
California Co-op. Meat Co., Oakland, Cal.....	Five branch shops in Oakland, and one in West Berkeley.
Modoc County Co-op. Assn., Alturas, Cal.....	Canby, Cal.
Tulare Rochdale Co., Tulare, Cal.....	Pixley, Cal.
Farmer's Incorporated Co-op. Society, Rockwell, Ia.....	Cameron, Ia.
Iowa Rochdale Co-op. Assn., Albia, Ia.....	Hussey, Ia.
Scandia Trading Co., Marathon, Ia.....	Albert City, Ia.
Johnson Co. Co-op. Assn., Olathe, Kan.....	Stanley, Kan.
	Edgerton, Kan.
	Gardner, Kan.
Decatur County Co-op. Assn., Oberlin, Kan.....	Prairie Center, Kan.
	Two branches in same county.
Arlington Co-op. Assn., Lawrence, Mass.....	Five branches in the same city.
Jackson Co. Co-op. Assn., Jackson, Mich.....	Napoleon Mich.
Eaton Co. Co-op. Assn., Eaton Rapids, Mich.....	Brookfield, Mich.
Laborers Commercial Co., Hancock, Mich.....	South Range, Mich.
Zion's Co-op. Mercantile Institution, Salt Lake City, Utah...	Ogden, Utah.
	Provo, Utah.
Scandinavian Co-op. Mercantile Co., Two Harbors, Minn.....	Idaho Falls, Idaho.
Polk Co. Co-op. Company, Lykens, Wis.....	One in same city.
	Range, Wis.
	Centuria, Wis.
Pierce Co. Farmer's Co-op. Company, Ellsworth, Wis.....	Ono, Wis.
	Martel, Wis.
Manitowoc Co. Co-op. Assn., Manitowoc, Wis.....	Timothy, Wis.
Farmer's Store Co., Bloomer, Wis.....	New Auburn, Wis.
	Sand Creek, Wis.

Credit is seldom given by these societies, and then for only a short time. Market prices are usually followed and in no case are goods sold only to stockholders.

The effect of these establishments, in the majority of cases, has been the lowering of the prices of merchandise in their localities.

CHAPTER VII.

CONCLUSION.

In our sketch of the history of consumer's co-operation in the United States we have seen how it has been a continual recital of ups and downs, of successes and failures, and for the most part, the latter. We have seen the establishment of co-operative stores made a mere incident of many national movements, rising into prominence with the growth of the movement itself and dying with its decay. Today, however, we note a renewed interest in co-operation. We see the establishment of these societies spreading over the country until at the present time there are but few states in which it is known that no co-operative store exists. We see the organization of central societies, wholesale houses, national associations and leagues for the purpose of spreading co-operative doctrines and for the establishment of co-operative institutions. Never before was the co-operative movement so strong. Never did it give such excellent promise of maturing into greater and greater proportions, of bringing more people into its fold.

What the future will be, one cannot tell. Only years will reveal the outcome of present day tendencies. It is but barely possible that the principles, which the co-operators now apply to the ownership and operation of stores, will sooner or later be applied to factories, mines, workshops and other forms of industrial and commercial activity. Although this is the goal of the Rochdale Co-operators, the evidence which we have presented above makes it seem very doubtful if effective and lasting reform of the economic situation in the United States can ever come by this means.

PART II.

STRIKES.



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GROVER G. HUEBNER.

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CHAPTER I.

INTRODUCTION.

What is the strike? Least among the various controversies concerning the strike is this simple question. It is sometimes maintained that the strike is merely 'a cessation of work.'¹ Then this is corrected by holding that it is a "concerted cessation of work," thus bringing in the element of combination. The former is obviously incorrect, but the latter is generally accepted, particularly by the courts and in legal definitions, as it provides a basis upon which to justify the right to strike.²

This right to strike, however, cannot rest upon the right of combinations to cease work. When men strike "they are still the employer's workmen in some sense; they still refer to the shop as their shop and to him as their employer; and he is likely to speak of them as his workmen, both parties implying that there is still a tie of some kind between them."³ A strike involves; 1st, a temporary combination; 2nd, a temporary cessation of work; and 3rd, an attempt on the part of the strikers to retain the places which they have temporarily vacated.⁴ This last element makes the strike a wholly different matter than the cessation of work on the part of a combination for a certain purpose. To prevent other workmen from accepting the vacant position is not to assert, but actually to deny their right to cease working. The right to strike cannot, therefore, rest ethically upon the workmen's right to cease working in a concerted manner. It must rest upon their right to work, rather than upon their right not to work. In other words, the

¹Standard Dictionary; Worcester's; Webster's International Dictionary; Webster's Collegiate Dictionary, etc.

²Eddy on Combinations; Ency. Dict.; Imperial Dict.; Black's Law Dictionary; Anderson's Law Dictionary; Bouvier's Law Dictionary; Ray's Contractual Limitations; Cogley, Strikes and Lockouts; Arthur vs. Oaks, 63 Fed., 310, etc.

³Gilman: Methods of Industrial Peace, p. 251.

⁴Adams: Labor Problems.

strike is a manifestation of the doctrine¹ that a workman, at least to some extent, "owns his job." The strike "may be defined as a temporary combination of wage-earners to affect some purpose—by a concerted cessation of work during which active measures are taken to retain the places which they have temporarily vacated."²

It is of interest to determine the course of development of this institution, as it is without doubt the foremost method³ employed by the laboring classes to improve their conditions as well as to enforce other demands. Aside from the boycott, the strike and the threat to strike are the chief weapons employed in forcing concessions from the employer. Undoubtedly, many advantages are peacefully secured, and, while some of these are made voluntarily by conscientious employers, it cannot be denied that others are the result of fear on the part of the employer. Such concessions must be regarded as the indirect result of the strike. It is a means both for good and for evil; and being intimately connected with both the defensive and aggressive activities of the wage-earner, the history of its growth may throw some light upon several of the problems which are today the cause of discussion in the field of labor.

The purpose of this paper is to trace the development or growth of strikes through the medium of statistics. First, it is believed that a careful analysis will disprove some of the current conclusions relative to these statistics; and second, it is proposed to draw positive conclusions respecting the development or growth of strikes. In some respects these conclusions must necessarily be more or less tentative, because most of the statistics cover a period of but twenty years and because numerous abnormal forces have undoubtedly influenced the movement even during this period. The positive conclusions must, therefore, be limited at least in some instances to what the movement has actually been in the past and to what it actually is today, rather than to what it will be in the future. Whatever

¹J. B. Clark in "Employers and Employees," edited by the Public Policy, p. 49.

²Adams: Labor Problems, p. 175.

³Mitchell: Organized Labor; Howell: Trade Unions—Old and New, p. 230.

movement the statistics may indicate for the future, must be regarded as to some degree tentative.

The primary purpose is to indicate what the evolution of strikes has actually been in the past and is today. It is, therefore, essential that the statistics be studied, not from the standpoint of a stationary condition, but from the standpoint of the movement which they designate from time to time. It is not so important to ascertain the total number of strikes that have occurred during a given period as it is to determine whether strikes are increasing or decreasing and of what that increase or decrease really consists. Again, while it is interesting to know how many strikes have been declared for one cause as compared with another during a given period of twenty years, it is more pertinent to determine what "causes" are increasing in importance and what "causes" are decreasing.

It is because of the failure to view these statistics from this standpoint of growth, that much of the misunderstanding has arisen. The statistics of "causes" of strikes in the United States for the period of 1881 to 1900 have, for example, been studied as a single bulk for the entire period.¹ It is then said that nearly three-fourths of all the strikes are due directly to demands concerning wages and hours. Such a statement, on the one hand shows nothing of value, and on the other is misleading. The real importance of these statistics of "causes" must be found in the *movements from time to time* which they indicate. Viewed as single bulk, they would indicate that causes other than wages and hours need hardly be considered: but viewed from year to year, they necessitate a very different and much more complicated conclusion.

The second reason why there is misunderstanding as to the statistics of strikes is found in the method of statistical tabulation. The existing strike statistics of the United States have for the most part been tabulated and explained upon several different occasions. In spite of that the simple proposition of whether or not strikes in the United States are increasing or decreasing is still a disputed matter. These statistics have

¹Gilman: *Methods of Industrial Peace*; C. D. Wright, in *N. A. Rev.*, Vol. 174; U. S. Dept. of Labor, 16th Annual Rept.; U. S. Ind. Com. Rept., Vols. 17 and 19.

frequently been used to show that strikes do not increase absolutely and actually decrease relatively. Such results are due to the adoption of a statistical method which is not tenable.

The controversies relative to strike statistics may be grouped under three headings. First, there is the question as to the increase or decrease of strikes; second, the development of "causes" of strikes; and third, the effect of trade unionism upon the strike. In the treatment of these three controversies numerous minor points of difference will appear. To facilitate the treatment, the most important of existing strike statistics will be analyzed. When once the statistics have been arranged so as to show an evolution or historical growth, then their real significance and their bearing upon some of the most vital of "Labor Problems" will amount to something more than mere conjecture.

CHAPTER II.

THE INCREASE OR DECREASE OF STRIKES.

(a) The United States.

The statistics of strikes in the United States for the period preceding 1881 are very incomplete, since at no time during that period were attempts at accuracy made. The first strike recorded was a strike of bakers in 1741. Journeymen horse-shoers also struck as early as 1796, 1798 and 1799.¹ From then on, there were a few strikes almost every year, but the number was always small, never going above fifteen until 1867, when eighty-five were recorded. Even thus far, however, the figures seem to indicate an increase. After 1870 the number remained at a comparatively high level, relative to the years preceding, until 1880 when 813 were recorded. Undoubtedly these early statistics are very inaccurate, but the increase which they show is, in all probability, greater than the inaccuracy.

Generally, also, the strikes were small during this early period. To this there were some exceptions. Thus, in 1809 there was a strike of nearly 200 cordwainers. In 1831 sixty machinists struck at Taunton, Massachusetts; in 1832, 120 shipwrights and caulkers and 150 carpenters struck at Boston, and 500 or 600 laborers at New Bedford; 1834, "several hundred" laborers at Mansfield, Massachusetts, and a large strike occurred at the Bath Shipyards; 1835, about 500 machinists at Boston and 1,500 cordwainers at Philadelphia; 1836, "several hundred" New York tailors paraded the streets with banners; 1846, 1,200 handloomers at Philadelphia; 1847, 1,200 tailors at Philadelphia; 1848, 800 Fall River weavers and 2,000 Alleghany cotton operatives; 1850, 1,300 Fall River cotton mill operatives (for almost six months) and 700 or 800 railroad employes near

¹ U. S. Dept. Labor Rept., 1887, "Strikes and Lockouts."

Philadelphia; 1859, 800 shoemakers at Natick, Massachusetts, and two strikes of shoemakers at Philadelphia of 1,700 and 600 respectively; and in 1860 1,600 shoemakers struck at Lynn, Massachusetts. These are the best examples and specifically explain that, while most of the early strikes were small, there were some that more than equaled the size and duration of the average strike of today.

From 1870 to 1880 the statistics are also incomplete, but they show, without much doubt, that the number of strikes during this early period is increasing even more rapidly than the number of strikes. The gigantic railroad strike of 1877 shows that large strikes were already a possibility.

In the aggregate, 1,491 strikes were recorded before 1881. While this is not of itself significant, it is suggestive to notice that but six years later (1886) there were almost as many strikes in a single year (1,432), and, that ten years later (1890), there were many more strikes in a single year than have thus far been discovered for the entire period preceding 1881.

It is from 1881 to 1900, however, that detailed statistics have been collected by the United States Department of Labor¹ and it is from them that it is proposed to draw conclusions. Are strikes increasing or decreasing?

It will now be necessary to explain the statistical method here pursued as compared with the method whose authenticity previously was unquestioned. Owing to the great fluctuations in the statistics from year to year, it is impossible to judge a definite change or evolution by observing the actual number of strikes for each year. Table I, column (a) consists of these absolute figures; and it indicates no definite change either one way or another. To still further emphasize the need of some statistical method, these figures were plotted in the form of a curve, as is shown in Chart I. The fluctuations are clearly too great and too irregular to indicate either a general increase or decrease. This being realized by those who have drawn conclusions from these statistics, has caused the adoption of that method which a hasty examination would naturally suggest.

¹U. S. Dept. of Labor Rept., 1887, 1894 and 1901.

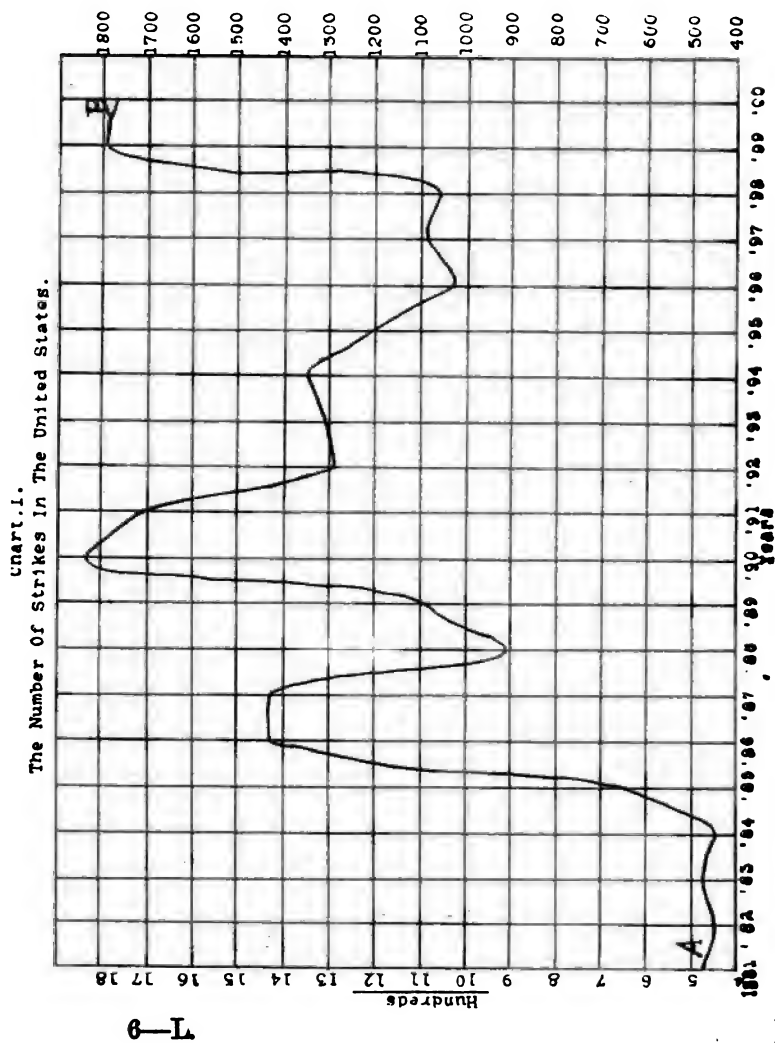


TABLE I.—*Total number of strikes.*

Year.	(a) Number of strikes.	(b) 5-year average.	(c) 6-year average.	(d) 4-year average.
1881	471	471		
1882	454	467.6	462.5	462.5
1883	478	498.2	461.5	461.5
1884	443	690.4	653.8	505
1885	645	886.8	814.6	749.5
1886	1432	972.4	890	989
1887	1436	1098.8	989.5	1104.7
1888	906	1336.4	1221.1	1212.2
1889	1075	1393.4	1399.8	1312.5
1890	1833	1365.8	1377.5	1382.7
1891	1717	1445.6	1355.6	1480.7
1892	1298	1500.4	1429.5	1538.2
1893	1305	1376.8	1452.8	1417.2
1894	1349	1238.6	1318.3	1291.7
1895	1215	1194.0	1211.8	1223.7
1896	1026	1144.8	1171.5	1167
1897	1078	1254.4	1253.5	1093.7
1898	1016	1347.2	1325.1	1239.2
1899	1797	1479	1427.5	1404
1900	1779	1621	1580	1531

16th Annual Report of U. S. Department of Labor.

The common method has been to divide the total period into minor periods¹ and then, on the basis of these, to compute averages. Without a second thought, the period of twenty years has commonly been divided into four periods of five years each, so as to secure four averages. Then, because the last of these averages is lower than the one preceding, it is concluded that, in the aggregate, strikes are decreasing.

Now, such a method may, or may not, result in a correct conclusion. Bowley² shows that it is uncertain when applied to such matters as imports and exports, for the obvious reason that the result depends upon the particular number of years adopted as the basis of the averages. Adopt one period and the result will be an increase; adopt another and it will be a decrease. So it is in the case of strikes. Divide the period of twenty years into four minor periods and there is an apparent decrease; divide it into five periods and there is an apparent increase. Not suspecting the possibility of mistake, this method has commonly been adopted, but its fallacy is obvious. No method which depends upon the particular period chosen as the basis of the averages can be accepted, as there is no more logic in adopting one period than another.

¹ U. S. Ind. Comm.; U. S. Dept. of Labor; Adams: Labor Problems.² Bowley, Elements of Statistics.

To avoid this fallacy and at the same time overcome the great fluctuations of the curve shown in Chart I, the method commonly employed in the tabulation of statistics of imports and exports is here adopted.¹ This method consists of a mechanical process known as "smoothing;" i. e. the curve of Chart I is so drawn as to slightly increase the abnormal depressions and to slightly decrease the abnormal increases. The result is a curve which indicates the general movement of the number of strikes. To specifically illustrate:—column (b) of Table I consists of five year averages on the basis of the absolute figures given in column (a). Beginning with 1881, five years were averaged and that average adopted as the number of strikes for the year 1883. Then beginning with the year 1882, five years were again averaged and the result adopted as the number for 1884. Thus the entire column of twenty years (column a) was tabulated on the basis of five year averages.² Instead of having but four averages, as in the method usually pursued, there are here twenty averages,—one for each year consisting of the center and the two years above and below. Now these "smoothed" figures are plotted as in Chart II and the result is the "smoothed" curve (a—b). It mechanically avoids the abnormal increase and the abnormal decrease so as to indicate the general movement.

The curve shows, not a decrease, but a fairly rapid increase of the absolute number of strikes in the United States.

To show that this method does not depend upon the particular average chosen—as in the case of the old method—the columns (c) and (d) of Table I were computed according to the same method. They consist respectively of four and six year averages. Thus, beginning with 1881, four years were averaged and the result plotted between the years 1882 and 1883; the next average of four years between 1883 and 1884, etc., for the entire twenty years.

¹Howley: Elements of Statistics.

²In the case of imports and exports, where a large number of years is considered, the particular period adopted as the basis of the averages is secured by averaging the various maxima. But here this is impossible because of the shortness of the aggregate period and the lack of regular periodic fluctuations. The result is unchanged, however, in the above cases of strike, because it is practically identical, no matter what period is adopted.

Curves (c—d) and (e—f), respectively, exhibit these averages. They fluctuate slightly above or below the curve of five year averages, but the increase is evident in each case. They demonstrate that no matter what average is adopted, the resulting curve shows that the absolute¹ number of strikes in the United States is increasing.

It will be noticed that this method does not carry the "smoothed" curve through the entire period of twenty years. In the case of the five year averages the curve ends with the year 1898. Now, to carry the curve to 1899 it was assumed that the number of strikes for 1901 was at least as large as for 1900 and the years immediately preceding. The number for 1901 was assumed to be the average of 1899 and 1900. This assumption is legitimate, as the number of strikes after 1900 was undoubtedly larger than during and immediately preceding 1900. The reports of the secretary of the American Federation of Labor show a large increase in the case of union strikes after 1900.² To extend the curve to 1900 the number of strikes for 1902 was assumed to be at least as large as for 1901. This assumption, again, is unquestionable.³

The increase of American strikes can be shown still more accurately. Table II presents the *number of establishments* affected by strikes for each year from 1881 to 1900.⁴ After being "smoothed," as shown in columns (b) the curve (a—b) of Chart III was constructed. It plainly shows a rapid increase. It is to be noted that this curve showing the number of establishments affected by strikes is a better standard to judge by, than that showing the simple number of strikes. In the case of the number of strikes, the same prominence is given to a very small strike as to a very large one, while in the case of the number of establishments affected this fallacy is largely obviated. Chart III shows, therefore, not merely the increase in the number of strikes but also the increasing importance of strikes.

¹ Absolute as distinguished from relative.

² Repts. Sec. Am. Fed. of Labor, 1901, '02, '03, '04.

³ The smoothed figure for 1881 is the actual number and for 1882 is the average of the three years, 1881-2 and 3.

⁴ U. S. Labor Report, 1901, "Strikes and Lockouts;" also U. S. Labor Bulletin No. 56.

⁵ Smoothed as above explained.

Chart III.
Establishments Affected By Strikes.

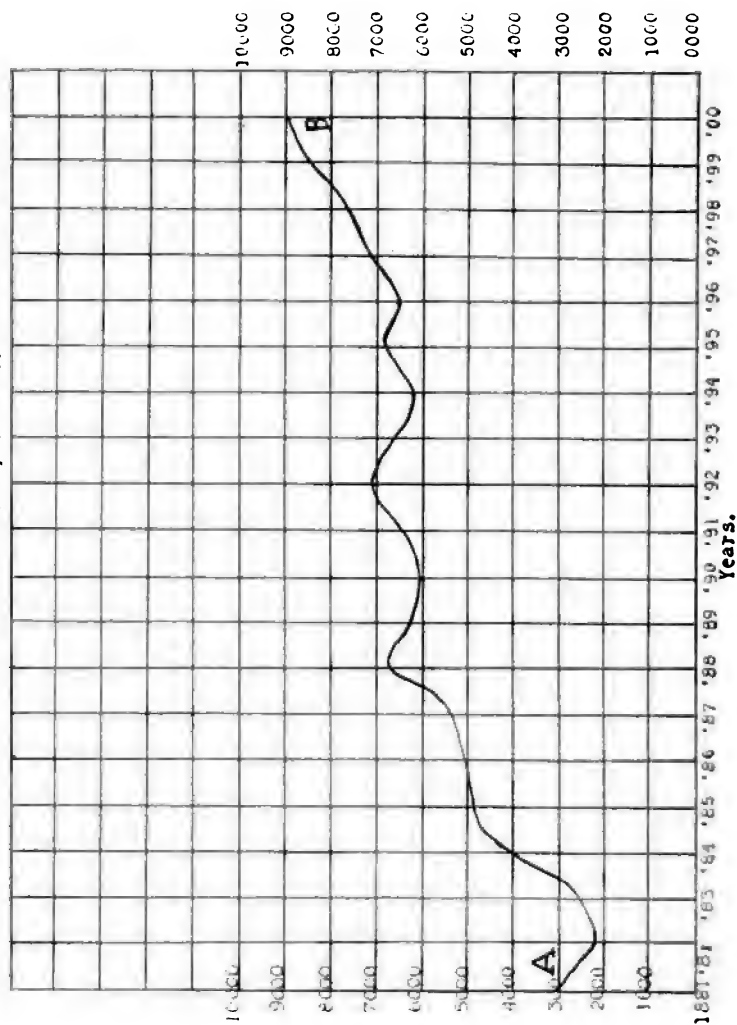


TABLE II.—*Establishments affected by strikes in the United States.*

Year.	(a) Establish- ments.	(b) Smoothed.	Year.	(a) Establish- ments.	(b) Smoothed.
1881.....	2,928	2,928	1891.....	8,116	6,284
1882.....	2,105	2,284	1892.....	5,540	7,106
1883.....	2,759	2,470	1893.....	4,555	6,676
1884.....	2,367	3,914	1894.....	8,196	6,145
1885.....	2,284	4,810	1895.....	6,973	6,738
1886.....	10,053	4,960	1896.....	5,462	6,586
1887.....	6,589	5,244	1897.....	8,492	7,211
1888.....	3,506	6,672	1898.....	3,809	7,606
1889.....	3,786	6,284	1899.....	11,317	8,630
1890.....	9,424	6,074	1900.....	9,248	8,966

16th Annual Report of U. S. Department of Labor.

But the statistics go still farther. Table III shows the *number of strikers* for each year from 1881 to 1900. It presents the figures both in the absolute and the smoothed form, the smoothed figures consisting of five year averages. Chart IV presents these figures in the form of the curve (a—b). It shows that *the number of strikers is increasing*.

Table III contains also the *number of employees affected by strikes* each year. When these, in the form of smoothed curves, are plotted, the result is the curve (c—d) of Chart IV. Again, there is an unmistakable increase. Now, it must be noted that these curves of the number of strikers and the number of employees directly affected by strikes are also more important than those of the simple number of strikes, for the same reason as in the case of the number of establishments affected. These curves, not only show the increase in the number of strikes, but the increasing importance of strikes on the side of labor, just as the increase in the number of establishments affected did on the side of capital.

Chart IV
Number Of Strikers And Number Of Employees Affected By Strikes.

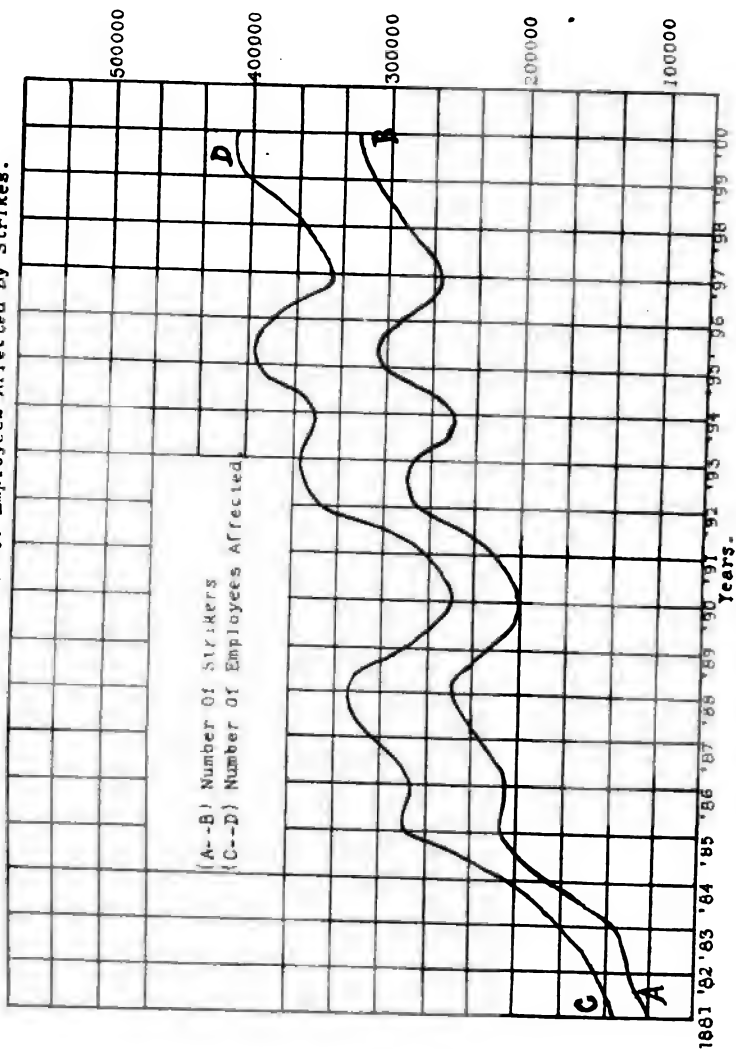
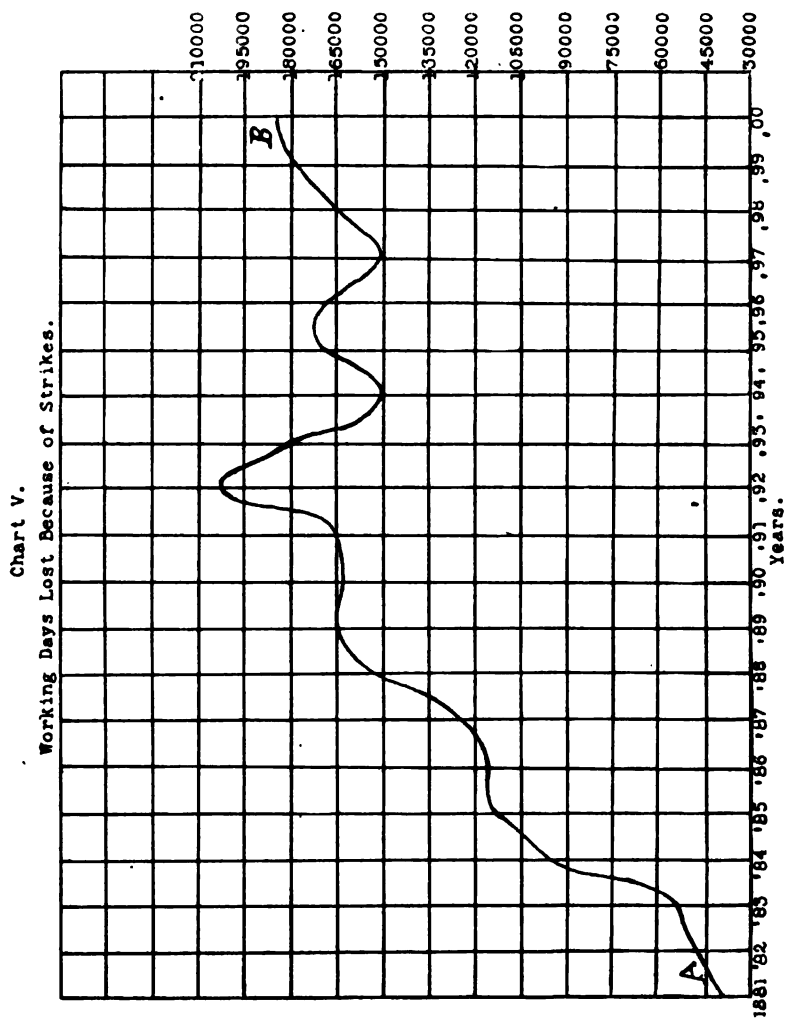


TABLE III.

YEAR.	EMPLOYEES AFFECTED BY STRIKES.		STRIKERS.	
	Actual No.	Smoothed.	Actual No.	Smoothed.
1881	129,521	129,521	101,070	101,070
1882	154,671	144,651.6	120,857	114,708
1883	149,763	164,742.8	122,198	124,004
1884	147,054	240,447.4	117,313	185,221
1885	342,705	285,448.4	158,584	215,604
1886	508,044	281,036.6	407,152	211,808
1887	379,676	305,577.6	272,778	229,359
1888	147,704	327,385	103,218	254,823
1889	249,559	285,564	205,068	222,401
1890	351,944	250,963.4	285,900	200,545
1891	208,939	275,605	245,042	218,903
1892	208,671	356,778.6	163,499	278,899
1893	265,914	364,870.4	195,008	278,868
1894	660,425	353,316.6	505,049	246,622
1895	392,403	393,660.6	285,742	300,436
1896	241,170	390,279.4	183,813	297,850
1897	408,391	341,408.8	352,570	258,492
1898	249,002	364,121.4	182,067	281,274
1899	417,072	408,400	308,267	315,304
1900	555,986	419,036	399,656	319,582

16th Annual Report U. S. Dept. of Labor.

To these figures may be added those of wage loss and number of working days lost through strikes. Table IV presents these figures both plain and smoothed. Chart V shows the total number of working days lost, in the form of a smoothed curve. From 1881 to 1892 there is a very great increase; from 1892 to 1899 there is no appreciable change; and in 1900 the figure is again large. In the aggregate the curve shows no great change. During the last ten years, at least, there is no general change in the number of working days lost because of strikes. Chart VI shows the figures of *wage loss* to employees because of strikes, in the form of a smoothed curve. Generally speaking the curve shows an increase in spite of the fact that wages were probably no higher in 1900 than in 1890. Had the rate of wages risen, the curve would undoubtedly show a great increase in the amount of wages lost by employees because of strikes. It is to be noted that these figures of the wage loss are very erroneous if used to show the financial loss caused by strikes, but that they may well be used to supplement the general figures concerning an increase or decrease of strikes. It is a recognized statistical principle that statistics which are obviously worthless as respects the condition of affairs at a given point may be often used to show a movement.



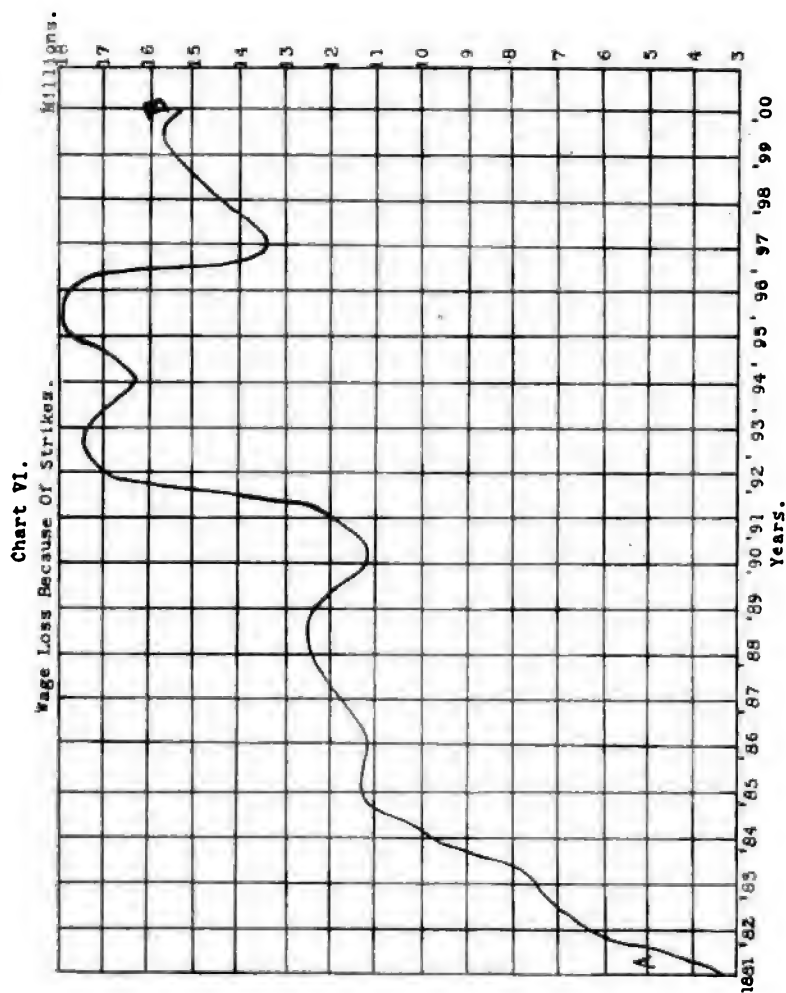


Chart VII.
Relative Increase of Strikes.

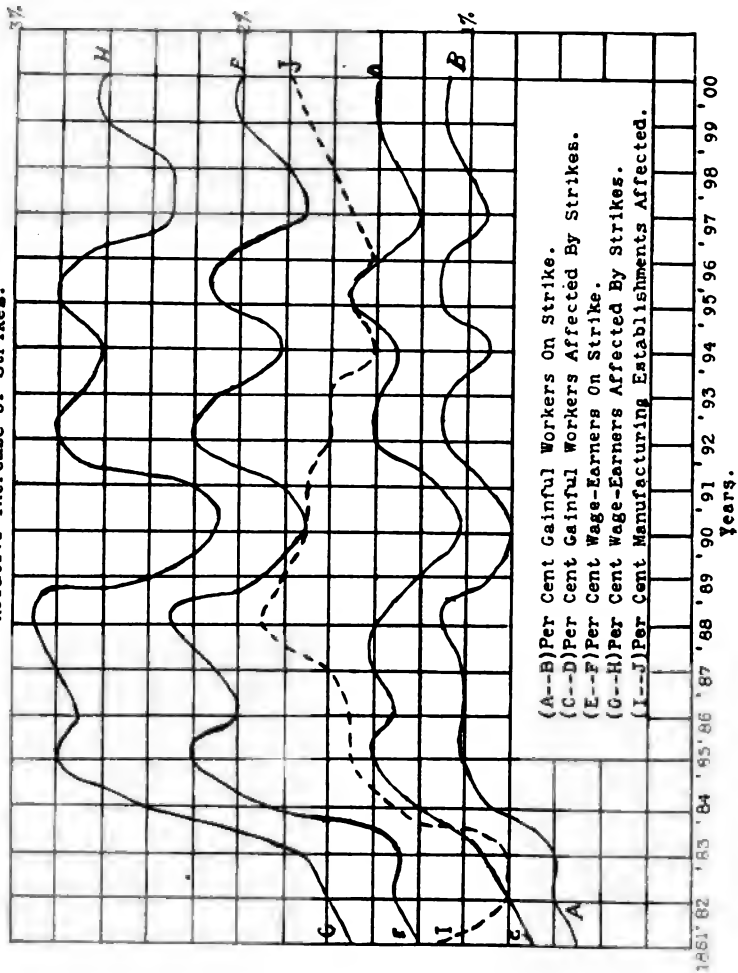


Chart VII. (Continued).

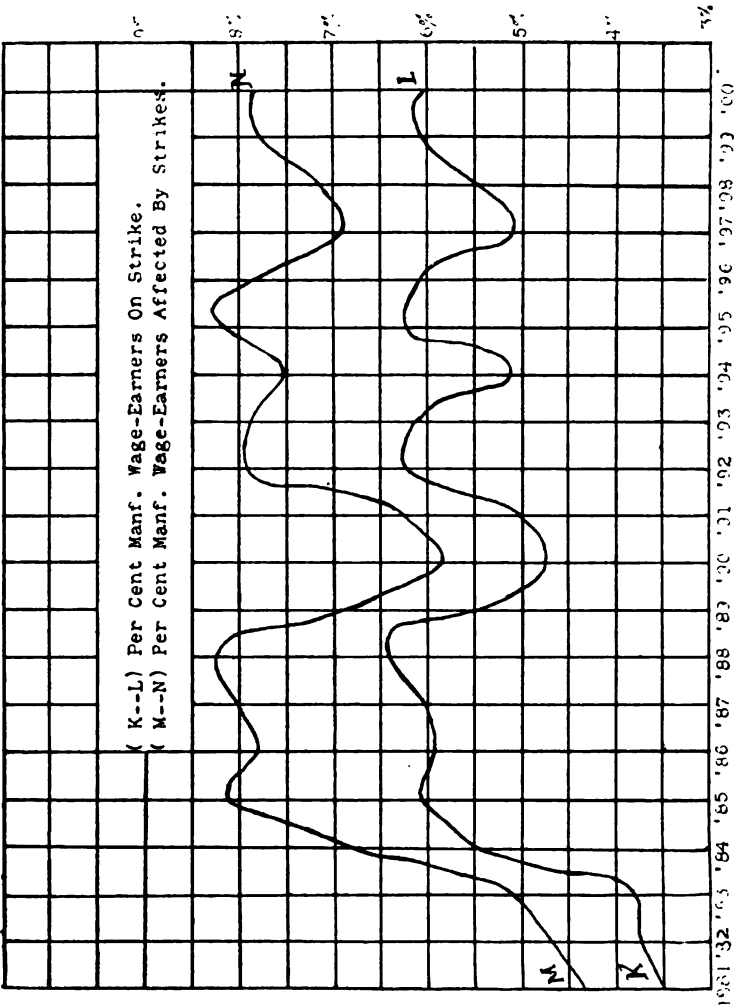


TABLE IV.—*Wage loss and working days lost.*

Year.	Wage Loss.	Smoothed.	Working days.	Smoothed.
1881.....	\$3,372,578	\$3,372,578	37,431	37,431
1882.....	9,864,228	6,530,762	46,088	46,082
1883.....	6,274,480	7,568,250	56,937	56,250
1884.....	7,666,717	9,892,250	72,110	95,907
1885.....	10,663,248	11,231,486	68,688	114,166
1886.....	14,192,453	11,252,140	235,253	117,080
1887.....	16,560,534	11,800,734	137,831	122,434
1888.....	6,337,749	12,443,152	71,261	154,277
1889.....	10,409,688	12,404,062	99,137	163,794
1890.....	13,875,338	11,247,380	227,801	162,111
1891.....	14,801,505	11,959,440	282,839	166,604
1892.....	10,772,622	17,140,505	129,416	199,867
1893.....	9,938,048	17,306,609	93,729	182,857
1894.....	37,145,830	16,399,858	263,454	150,264
1895.....	13,044,830	17,739,102	142,851	170,866
1896.....	11,098,207	17,758,949	119,870	159,177
1897.....	17,468,904	13,361,436	232,443	150,417
1898.....	10,037,284	14,420,786	85,269	164,455
1899.....	15,157,965	15,551,096	171,655	178,850
1900.....	18,341,570	15,407,271	213,038	170,931

U. S. Labor Dept., 16th Annual Rept.

These statistics show, therefore, that the number of strikes, number of establishments affected by strikes, number of strikers, number of employers affected by strikes and the amount of wage loss due to strikes are all increasing. In the aggregate, therefore, on the basis of all these statistics, the conclusion is that the *absolute number of strikes in the United States is increasing.*

More important than this, however, is the growth of strikes *relative* to the growth of industry. There may well be an absolute increase, but if that is due to the increase of the number of workmen there may at the same time be a *relative* decrease. It is usually held that there is such a relative decrease.¹ This conclusion, again, is due to the inaccuracy of the statistical method adopted.

It is essential to recognize, here, that it is wholly impossible to secure any rigidly accurate results; but it is submitted that if all the available statistics show much the same development, a sufficiently accurate conclusion can be drawn. Chart VII presents a series of curves for the entire United States on the basis of 20 years. Curves (a—b) and (c—d) graphically represent respectively the per cent of gainful workers who were on

¹ Industrial Commissions; Adams: Labor Problems.

strike and who were directly affected by strikes for the years 1881 and 1900 inclusive. The method is briefly as follows: The actual number of gainful workers was obtained for the years 1880, 1890 and 1900.¹ Then by the simple statistical process of adding one-tenth of the difference between 1880 and 1890 to each succeeding year, the approximate number of gainful workers was secured for each year between 1881 and 1890 inclusive. In the same way the approximate number for each year between 1890 and 1900 was secured by adding one-tenth of the difference between 1890 and 1900 to each successive year. The number of strikes for the same years was then smoothed by five year averages as previously described. This yearly number of strikers was then divided by the number of gainful workers for the same years. The result is the per cent of gainful workers who were on strike each year. In the same way, the per cent of the gainful workers who were affected by strikes each year was computed. The actual figures, with per cents, are given in Table V.

TABLE V.

Year.	Per cent. gainful workers on strike.	Per cent. gainful workers affected.	Per cent. mfg. workers on strike.	Per cent. mfg. workers affected.
1891 .....	.5	.7	3.5	4.4
1892 .....	.6	.8	3.7	4.7
1893 .....	.6	.9	3.8	5.1
1894 .....	.9	1.2	5.5	7.1
1895	1.0	1.4	6.1	8.1
1896	1.0	1.3	5.9	7.8
1897	1.0	1.4	6.0	8.0
1898	1.1	1.4	6.4	8.2
1899 .....	.9	1.2	5.4	6.9
1890 .....	.8	1.0	4.7	5.9
1891 .....	.9	1.1	5.0	6.3
1892	1.1	1.4	6.2	7.9
1893	1.1	1.4	6.1	7.9
1894 .....	.9	1.3	5.2	7.5
1895	1.1	1.5	6.2	8.2
1896	1.1	1.4	6.1	7.9
1897 .....	.9	1.2	5.1	6.9
1898	1.0	1.3	5.5	7.1
1899	1.1	1.4	6.1	7.8
1900	1.1	1.4	6.0	7.8

U. S. Census 1880-1890-1900; 16th Annual Report of U. S. Dept. of Labor.

¹ U. S. Census Reports, Occupations.

But recognizing the possible inaccuracy of these curves, more computations were made. Curves (e—f) and (g—h) show the per cent of the total number of wage earners in the United States who were respectively on strike and affected by strikes between the years 1881 and 1900. The figures for the total wage-earners are again only approximate—consisting of the workers in those industries which would be likely to be affected by strikes. The sources¹ and method adopted are identical with those described. The curves indicate no definite increase or decrease. In the aggregate, it seems that if there is any change it is in the direction of a slow increase; at least there certainly is not a decrease. (The actual figures are given in Table VI.)

To go still further, curve (i—j) was constructed in the same manner. It indicates the approximate per cent of the total manufacturing establishments in the United States affected by strikes. This curve² again indicates no decided change,—although a slight decrease seems perceptible. There is very plainly not a decrease in the strikes relative to the number of manufacturing establishments in the United States. (The actual figures are given in Table VI.)

Curves (k—l) and (m—n) are respectively the per cent of total manufacturing wage earners who were on strike during the same period and who were affected by strikes. As is indicated by a glance at the curves, they show a slight increase,—slightly more than in the case of the curves (i—j), (g—h) and (e—f), but somewhat less than in the case of the curves (a—b) and (c—d).

¹ U. S. Census Reports, 1880, 1890, 1900; 16th Annual Report of U. S. Commissioner of Labor.

² This is necessarily inaccurate because, owing to the lack of statistics, the number of manufacturing establishments is not divided by the number of manufacturing establishments which were affected by strikes but by the number representing all establishments affected by strikes. It is sufficiently accurate to be one of a large series of curves.

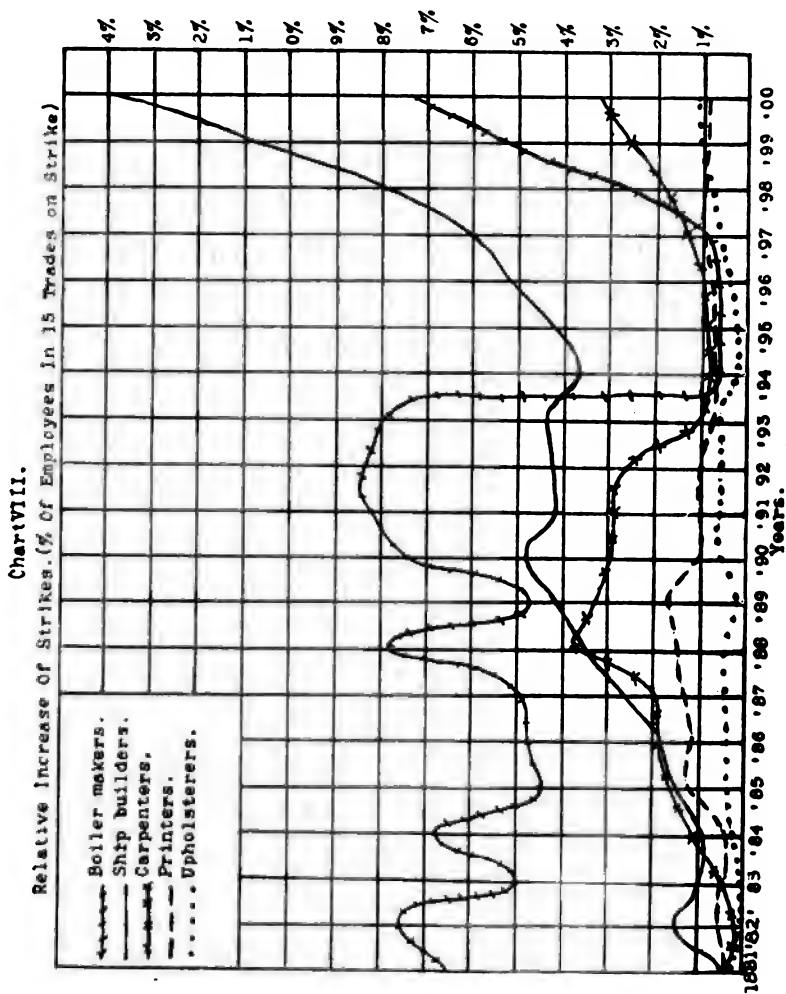
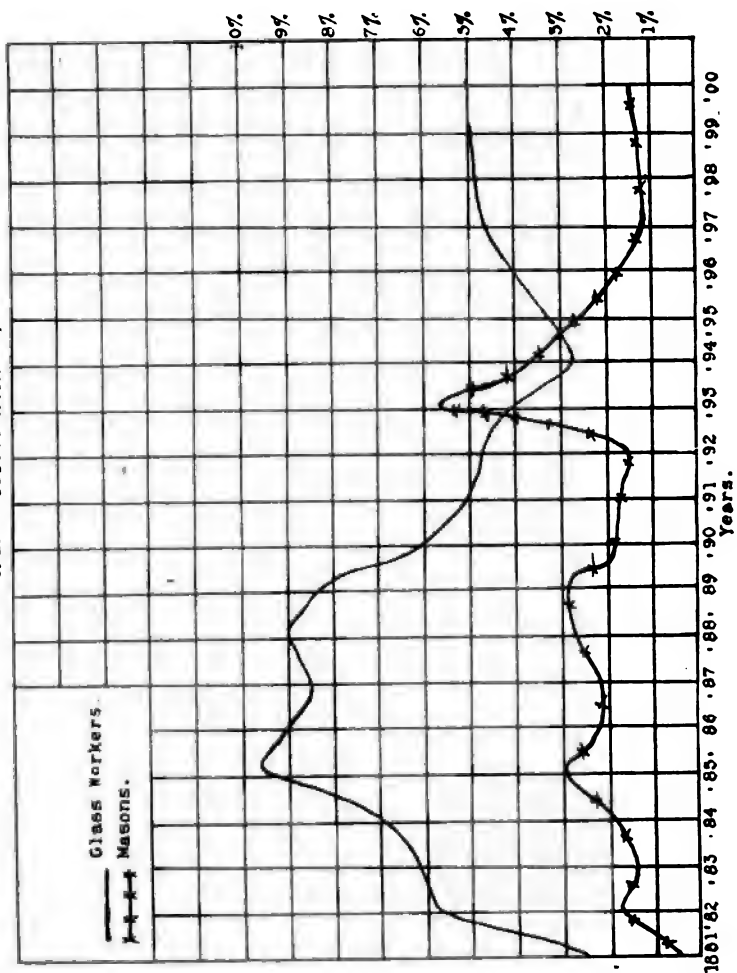
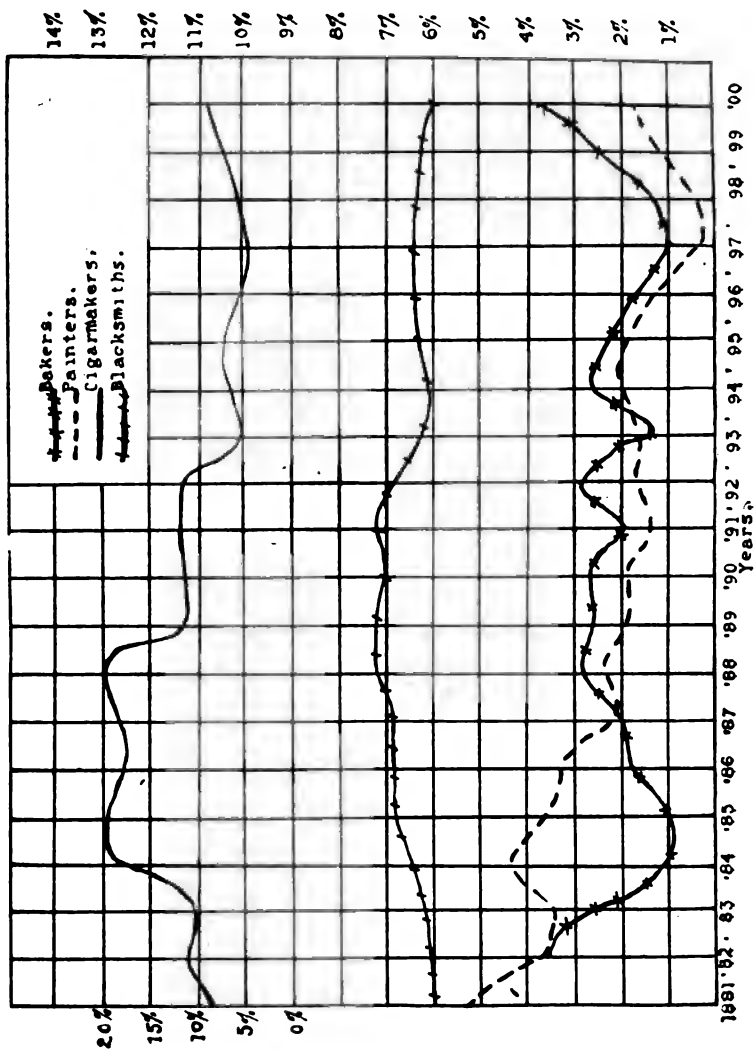


Chart VIII. (Continued).



Char. VIII. (Continued)



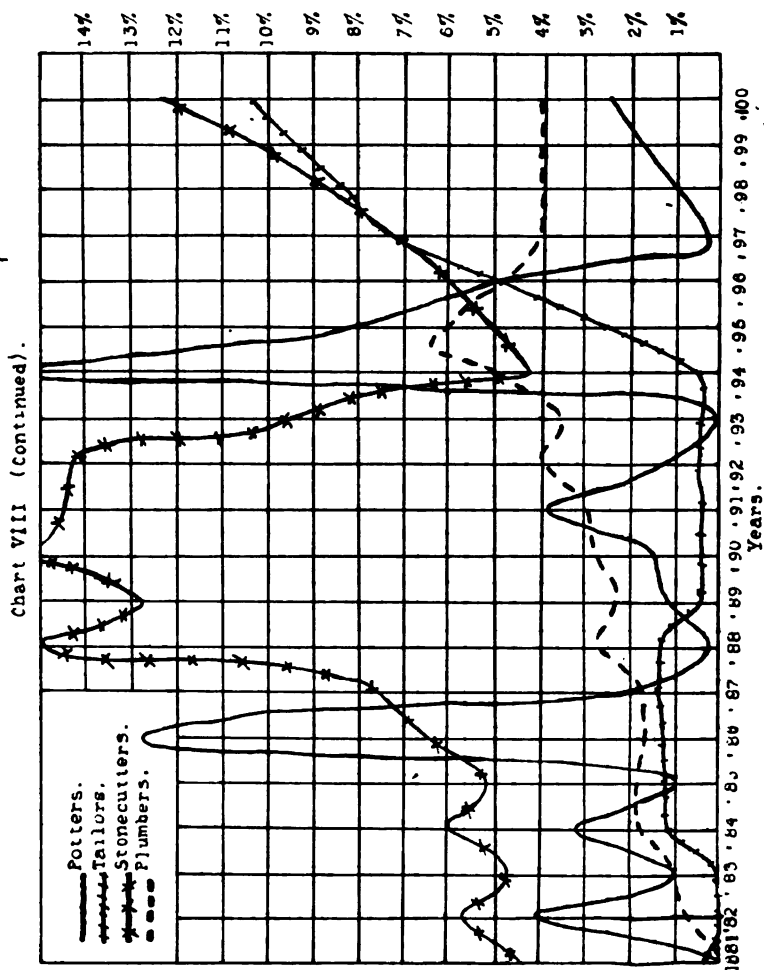


TABLE VI.

Year.	Per cent. wage-earners on strike.	Per cent. wage-earners affected.	Per cent. Mfg. establishm'ts affected.
1881.....	1.2	1.5	1.1
1882.....	1.8	1.6	.8
1883.....	1.8	1.7	.8
1884.....	1.9	2.4	1.3
1885.....	2.2	2.8	1.5
1886.....	2.0	2.7	1.5
1887.....	2.1	2.8	1.6
1888.....	2.3	2.9	1.9
1889.....	1.9	2.4	1.8
1890.....	1.7	2.1	1.7
1891.....	1.8	2.2	1.7
1892.....	2.2	2.8	1.6
1893.....	2.1	2.7	1.6
1894.....	1.8	2.6	1.4
1895.....	2.1	2.8	1.5
1896.....	2.1	2.7	1.4
1897.....	1.7	2.3	1.5
1898.....	1.8	2.3	1.6
1899.....	2.0	2.6	1.7
1900.....	2.0	2.6	1.8

(1) U. S. Census 1880—1890—1900; 16th Annual Report of U. S. Dept. of Labor.

Since all the curves show much the same result, it seems reasonable to believe, even in spite of admitted inaccuracies, that there is a slow relative increase in the general level of strikes in the United States. But very much more reliable results can be secured if separate trades are considered. When the computation is reduced to the basis of the small unit of a separate trade and is limited to only the purely industrial states, thus excluding all the agricultural states, the results denote some degree of accuracy. Table VII shows the result for 15 such separate trades.¹ For each it shows the per cent of the total number of workers who were on strike each year during the period from 1881 to 1900.

Chart VIII exhibits these per cents in the form of "smoothed" curves. Out of the fifteen curves tabulated, ten show an increase, three remain about stationary and two show a decrease. In the aggregate, therefore, on the basis of these trades, there is plainly a general increase in the relative growth of strikes.

Are strikes increasing in the United States? On the basis of the above statistics, the conclusion seems to be:

¹Tailors, blacksmiths, carpenters, printers, shipbuilders, plumbers (gas and steam fitters included), bakers, potters, upholsterers, masons (bricklayers included), cigarmakers, stone cutters (all classes of stones), boiler-makers, painters (paper hangers and decorators included) and glass workers.

TABLE VII.—*Per cent. of total number of workers on strike.*

Industry.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Shipbuilders .....	.5	1.5	.9	.9	1.5	1.8	2.6	3.5	4.1	4.8
Carpenters.....	.4	.2	.4	1.0	1.6	1.8	2.	3.7	3.3	2.9
Printers.....	.4	.5	.4	.4	1.3	1.2	1.3	1.5	1.7	1.
Upholsterers.....	.2	.06	.04	.3	.3	.4	.5	.5	.2	.6
Boilermakers.....	6.5	7.6	4.9	6.8	4.3	4.8	4.9	7.8	4.8	7.6
Potters.....	.0	.4	1.05	3.2	1.1	12.8	1.9	2.25	1.2	1.5
Plumbers.....	.0	.7	1.1	1.8	1.9	1.7	1.7	2.7	2.3	2.8
Tailors.....	.2	.08	.08	1.2	1.2	1.2	1.3	1.3	.4	.4
Stonecutters.....	4.47	5.6	4.7	6.1	5.2	6.6	7.6	14.9	12.7	15.1
Masons.....	.3	1.8	1.4	1.8	2.9	2.2	2.1	2.7	2.8	1.7
Bakers.....	.....	3.8	2.4	1.0	1.0	1.9	2.1	2.9	2.6	2.6
Glass-workers.....	2.5	5.7	6.1	6.8	9.7	9.0	8.5	9.	8.3	6.2
Blacksmiths.....	.009	.008	.01	.03	.04	.04	.04	.06	.0	.05
Painters.....	5.3	3.7	3.4	4.4	3.7	3.3	2.1	2.4	1.9	1.9
Cigarmakers.....	8.2	12.9	12.8	19.4	19.6	15.6	16.8	19.6	12.7	13.7

Industry.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1900.
Shipbuilders.....	4.2	4.1	4.3	3.6	.....	.....	6.0	.....	.....	14.0
Carpenters.....	2.9	2.6	.9	.7	.....	.....	1.2	.....	.....	3.3
Painters.....	1.	1.	.7	.7	.....	.....	.9	.....	.....	.8
Upholsterers.....	.6	.5	.7	.2	.....	.....	.6	.....	.....	1.0
Boilermakers.....	8.2	8.3	7.9	.6	.....	.....	.7	.....	.....	7.3
Potters.....	3.9	1.4	.0	50.2	.....	.....	.3	.....	.....	2.4
Plumbers.....	3.	4.	3.5	6.2	.....	.....	4.0	.....	.....	4.0
Tailors.....	.4	.5	.3	.5	.....	.....	7.4	.....	.....	10.3
Stonecutters.....	14.6	14.3	9.7	4.3	.....	.....	7.3	.....	.....	12.4
Masons.....	1.6	1.5	5.6	3.6	.....	.....	1.2	.....	.....	1.5
Bakers.....	1.9	2.9	1.4	2.6	.....	.....	.9	.....	.....	4.3
Glass-workers.....	5.1	4.8	4.	2.7	.....	.....	4.4	.....	.....	5.
Blacksmiths.....	.06	.04	.02	.....	.....	.....	.2	.....	.....	.0
Painters.....	1.4	1.7	1.6	2.1	.....	.....	.3	.....	.....	1.6
Cigarmakers.....	12.	11.6	5.2	7.7	.....	.....	4.7	.....	.....	8.0

The strike statistics for the years 1881 to 1894 are taken from the U. S. Labor Reports for 1887 and 1894. The statistics since 1894 are not in published form, but are available in the U. S. Labor Dept., at Washington. Owing to the expense, it was found possible to secure these figures for but two years (1897 and 1900.) This, however, is legitimate, as 1897 is one of the lowest years since 1894. The year 1900 was chosen as the other of the two years because it is the last year for which statistics are available.

The table includes but those ten states in which the strike has clearly gone beyond the experimental stage; i. e. New York, California, Connecticut, Delaware, Illinois, Indiana, Massachusetts, Ohio, Pennsylvania and Rhode Island.

(1) *Absolutely strikes are increasing rapidly.* The number of strikes, of strikers, of employees affected by strikes, of establishments affected by strikes and of wage loss are increasing.

(2) *Relatively strikes are increasing slowly.* The more accurate statistics become, the more evident is this increase toward which they point. Obviously many elements enter into these statistics. The great decline of all the curves during the years 1893 and 1894 and immediately after is due to the crisis and cannot be regarded as a normal movement. In spite of all abnormal influences, it seems to be beyond dispute that with each return to normal conditions a *higher* general level is reached.

Taking all into consideration, the final conclusion must be that the general level of strikes in the United States is moving toward a higher plane.

(b) *Foreign Countries.*

While it is proposed to remain almost entirely within the United States, it may be well to glance at foreign countries. Owing to the fact that changes are there very marked, the simple figures, unplotted and "unsmoothed," are self-explanatory. Table VIII contains the number of strikes for the most important foreign countries. The figures show that the number of strikes in France, Austria and Sweden are increasing at a fairly rapid rate and that in Germany and Italy the increase is very rapid, while in England there is a very decided decrease. As to the other countries, Denmark, Belgium and Holland, the statistics cover too short a time to permit the tracing of a development. In all these countries, however, excepting England, Germany and Italy,¹ the evidence, other than purely statistical,² shows that strikes there are but a comparatively recent institution and that but a short time ago strikes were a very rare occurrence. This is true also in Switzerland, Hungary, Russia, Spain and Portugal.³

¹Brit. Royal Comm. of Labor, Foreign Repts., Vols. 5, 8, 3, 4, 9.

²Ib., Vol. 11; U. S. Consular Repts.

³Ib., Vols. 7, 11, 10, 9.

TABLE VIII.—*Number of strikes.*

Year.	(3) Gr. Britain.	(2) France.	(4) Austria.	(1) Germany.	Denmark.	(4) Italy.
1879						32
1880						27
1881						44
1882						47
1883						73
1884						81
1885			25			89
1886						96
1887						69
1888		110 ^a	135 ⁷			101
1889	1,211 ^a	321 ^a	69 ⁷			126
1890	1,040 ^a	313	70 ⁷			139
1891	906 ^a	267	100 ^a			132
1892	700 ^a	281	101 ^a	73 ^a		110
1893	782 ^a	614	172 ^a	116 ^a		131
1894	1,091 ^a	391	172	130 ^a		109
1895	876 ^a	403	209	204 ^a		158
1896	926 ^a	476	305	483 ^a		210
1897	864 ^a	556	246	578 ^a	77 (111 ^a)	217
1898	711 ^a	368	255	983 ^a	136 (147 ^a)	256
1899	719 ^a	739	311	1,288	81 (98 ^a)	259
1900	618 ^a	902 ^a	303	1,433	82 ^a	383 ¹
1901	642 ^a	523	270 ^a	1,056		1,042
1902	442 ^a	512	264 ^b	1,080	65 ^a	
1903	387 ^a	567 ^a		1,374 ^a		
1904						

Year.	Sweden.	Belgium.	Holland.	Barvaria.	Agric strikes in Italy.
1879					
1880					
1881					1
1882					2
1883					3
1884					10
1885					62
1886	12				17
1887	4				9
1888	12				5
1889	22			48 ^a	4
1890	107			34 ^a	8
1891	37			14 ^a	24
1892	16			9 ^a	10
1893	32			5 ^a	18
1894	18			16 ^a	8
1895	46			37 ^a	7
1896	50	139 ¹⁰		35 ^a	1
1897	90	130		25 ^a	12
1898	134	91		49 ^a	26
1899	62	104			9
1900	104	146			27
1901		107 ⁴	115 ¹¹		629
1902			128 ¹²		902
1903		76	149 ¹³		
1904			41 ¹³		

*Strikes and lockouts.

†Not including mining strikes.

¹U. S. Bulletin, Vol. 8 (1903), p. 376.²Id., p. 1088.³Id., Vol. 52, p. 656.⁴Mass. Bulletin, Vol. 21, p. 36.⁵Labor Gazette, Canada, Dec., '04.⁶British Royal Comm. of Labor (Foreign Repts.), Vol. 6, pp. 36-7.⁷Royal Comm., Vol. XI, p. 65.⁸U. S. Bulletin, No. 56, p. 261.⁹Id., p. 272.¹⁰From N. Y. Brd. of Labor, No. 18 (1903), p. 344, for 1896 to 1900.¹¹Mass. Bulletin, Vol. 25, p. 55.¹²U. S. Bulletin, No. 56.¹³First half of 1904.

Strikes and Lockouts.

England—1889-1900, U. S. Report, p. 846; 1901-1902, Eng. Report of Strikes and Lockouts, Board of Trade (1903); 1903, Mass. Bur. Labor Bul. No. 34 (1904).
 France—1890-1900, U. S. Rep., p. 829; 1903, Mass. Bur. No. 30 (1904).
 Austria—1891-1900, U. S. Dept., p. 813.
 Germany—"Strikes and Ausfarrangen," 1899-19 2, 1892-1899; Official Organ of the Fed. Com. of German Trade Unions.
 Denmark—U. S. Dept., p. 826; 1897-1899-1902, Mass. Bur. No. 32.
 Italy—U. S. Rept., 1879-1899.
 Sweden—House Commons, Vol. 73 (1901).
 Belgium—Mass. Rept., No. 32, for 1903.
 Bavaria—House of Commons Rept., Vol. 73, p. 165.
 Holland—Mass. Bul. No. 34, p. 383.

From this, and the very appreciable number of strikes shown by the above statistics for recent years it follows that generally the number of strikes is increasing in every industrial country of Europe, except England. In England there is a very decided decrease since 1889. Before that there was an increase even in England,¹ but statistics for this early period are not available.

Comparing the strikes in the different countries, it appears (according to the last year for which statistics are given) that there are more strikes in the United States than in any other country—there being 1779 in 1900. Italy² follows with 1672; Germany third with 1374; France fourth with 567; England fifth with 387; Austria sixth with 264; Canada seventh with 160; Holland, eighth with 149; Sweden ninth with 104; Belgium tenth with 76; and Denmark eleventh with 65. The other countries cannot be arranged because of lack of statistics.

To carry these comparisons still farther, Table IX was constructed. It contains the number of employees directly affected by strikes³ in foreign countries. In comparing these, from the standpoint of growth, the same general result is reached as in the case of the simple number of strikes. England shows a decrease, but there is an increase in all the other important industrial countries of Europe. Italy especially, owing largely to the growth of the unique agricultural strike, shows a remarkable increase.⁴

This basis of the number of strikers, instead of the number of strikes, changes the relative position of the different nations

¹Johnson's Universal Encyclopedia ("Strikes"); Webb: History of Trade Unionism; Thornton on Labor.

²The year 1900 would place Italy 5th, instead of 2nd.

³In some cases, simply the number of strikers.

⁴There are some agricultural strikes in Poland.

TABLE IX.—*Number of employees affected.*

Year.	Great Britain.	France.	Austria.	Germany.	Denmark.	Italy.
1879						4,011†
1880						5,900†
1881						8,272†
1882						5,854†
1883						12,900†
1884						23,967†
1885						34,166†
1886						16,951†
1887						25,027†
1888						28,974†
1889	327,651*					23,322†
1890	373,650*		1,025a			38,402†
1891	258,718*	118,941†	14,123a			34,733†
1892	352,245*	48,538†	28,120a	3,022†		30,800†
1893	627,969*	170,123†	74,623	9,356†		32,109†
1894	324,245*	54,578†	36,254	7,319†		27,595†
1895	263,758*	45,801†	30,714	14,032†		19,307†
1896	198,687*	49,851†	60,607	128,808†		98,051†
1897	230,267*	68,875†	41,326	63,119†	7,510b	76,570†
1898	253,907*	82,065†	45,116	60,190†	6,787b	35,705†
1899	180,217*	176,772†	60,137	99,338†	36,066b	43,194†
1900	184,773*	222,714†	112,865	122,803†	7,096*	80,858†
1901	179,546*	111,414†	24,870†	55,262†		196,540
1902	156,667*	212,704†	43,825*	53,912†	8,785b	
1903	116,901†	123,151†		85,603*		
1904						

Year.	Sweden.	Belgium.	Holland.	Bavaria.	Agric. strikes in Italy.
1879					
1880					
1881					100
1882					2,200
1883					262
1884					245
1885					8,857
1886	1,185†				3,846
1887	300†				2,275
1888	2,200†				1,368
1889	2,379†			5,275†	1,087
1890	3,900†			2,498†	1,950
1891	2,317†			965†	7,795
1892	1,346†			819†	3,504
1893	2,269			130†	12,360
1894	768†			625†	4,748
1895	2,929†			3,580†	1,765
1896	4,600†	23,204 ¹⁰		4,256†	100
1897	5,930†	35,958		1,804†	24,135
1898	16,700†	13,101		5,887†	8,495
1899	8,667†	57,951			1,895
1900	10,290†	32,443			12,517
1901		14,000 ⁶	4,182 ¹¹		222,985
1902			12,652 ¹²		
1903		10,359	33,140 ¹³		
1904			7,300 ¹³		

*Strikes and lockouts.

†Strikers only.

a Not miners and strikers only.

b Strikes and lockouts, and employees immediately affected, only.

¹N. Y. Bul. of Labor, No. 22 (1904), p. 326.²U. S. Bulletin, No. 81 (1903), p. 377.³ib. No. 8 (1903), p. 1088.⁴ib., No. 52, p. 666.⁵ib., p. 658.⁶Mass. Bulletins 21, p. 36 (strikes only and strikers only).⁷Labor Gazette, Canada, Dec., '44.⁸U. S. Bulletin, No. 56, p. 261.⁹ib., p. 272.¹⁰N. Y. Bul. Labor, No. 18 (1903), p. 344. For 1896-1900, strikers only.¹¹Mass. Bul. No. 25, p. 55 (strikers only).¹²U. S. Bul. No. 56.¹³First half of year only—and figures only approximate.

somewhat. The United States stands first, Italy¹ second, France third, England fourth, Germany fifth, Austria sixth, Belgium² seventh, Sweden eighth, Denmark ninth and Holland tenth.³

These statistics tend to show how incorrect it is to think only of the United States and England, as is often done, in connection with strikes. The strike movement either is assuming or has already assumed large proportions in practically every important industrial country, and England is but fourth or fifth upon the list as a country of strikes. The increase shown at such length in the case of the United States is quite general outside of England. On the other hand, in many of these European countries, excluding Italy and Germany, the strike is a new institution, having reached large dimensions in a comparatively short time and may be but a temporary, sporadic movement,—while in the United States, the increase has already covered a long period and shows all indications of being permanent.⁴

Whatever it may all mean,—contrary to what has been so often stated, strikes in the United States are increasing both absolutely and relatively.

¹ Italy is 6th instead of 2nd in the year 1900.

² The political strikes of Belgium are not included in this. The labor department does not consider these as strikes and consequently they are not recorded as such.

³ No such figures for Canada.

⁴ This must be regarded as tentative.

CHAPTER III.

THE DEVELOPMENT OF THE CAUSES OF STRIKES.

(a) The United States.

As has already been shown, the difficulty with the statistics of the "causes" of strikes is that they have not been viewed from the standpoint of growth. They have been tabulated so as to present an average for twenty years,¹ and that is not only comparatively valueless but even misleading. Based on the average of the entire period for which accurate statistics are given, it is concluded that almost three-fourths of the total number of strikes are due to matters directly concerning wages or hours of labor, and that other causes are so unimportant that they need hardly be considered.² If, however, those same statistics are tabulated so as to show the relative importance of the various causes from year to year, it will appear that the high average in the case of wages and hours is due largely to the beginning of the period. The statistics will show that to-day the relative importance of the various "causes" of strikes is very different than is indicated by the averages upon which conclusions have generally been based.

First, consider briefly the early history relative to the cause of strikes.³ In this early period it can be truly said that the great majority of strikes were connected with matters concerning wages and hours of labor. Of the total number reported, 79% were due to wages and the great majority of the remainder to hours. The fragmentary character of the statistics does not permit a determination of whether certain causes have increased or decreased in importance. Yet, it is quite certain that strikes

¹16th Annual Report of the Department of Labor; U. S. Industrial Commission Rept., Vol. 17, etc.

²Gilman, *Methods of Industrial Peace*; C. D. Wright, *N. Am. Rev.*, Vol. 174.

³16th Annual Rept. U. S. Dept. of Labor; U. S. Dept. Labor. Rept. (strikes and lockouts) 1887; U. S. Bulletin of Labor, Vol. 56; Freeman: *Eng. Mag.* 6:176.

other than those concerning wages and hours were extremely rare. It is to be noticed, however, that most of the recent causes of strikes appeared occasionally even during this period. As early as 1821 a strike occurred against non-union men,—the printers' union of Albany striking against a "rat." Strikes against non-union men are recorded also for 1859, '66, '68, '72 and '79. A purely sympathetic strike occurred as early as 1805; a strike for union rules as early as 1833; concerning the apprenticeship question in 1859; reinstatement in 1827; machinery in 1868; and toward the end of this early period strikes appeared more frequently for the recognition of unionism, limitation of the amount of work, and union scales; and against machinery, discharge of union men and the adoption of piece-work. Contrary to what is true of the later period, strikes in the early period, other than those due to wages and hours, need hardly be considered.

It is for the period, 1881 to 1903, however, that statistics permit the tracing of an evolution or growth of the "causes" of strikes. The statistics for the years 1881 to 1900 were collected by the U. S. Department of Labor for the entire country; those for the years 1901 to 1903 are taken from the state labor reports of as many states as were available.¹ The method pursued is briefly as follows: A very large proportion of the strikes are for two or more causes and the statistics are given in this form: i. e., not according to the number of causes, but according to the number of establishments affected by strikes due to certain causes or combinations of causes. Now, to determine the rank of each important cause, they were all taken separately in the tabulation. In this way the total number of establishments affected by strikes, involving each separate cause, was determined for each year. Then, by dividing the number for each particular cause by the total number for the same year, the per cent of establishments affected by strikes due to each of the important individual causes was secured. This per cent signifies the relative importance of one cause as compared with all the other causes; or, as the Industrial Commission says:² "It is a

¹ New York, Massachusetts, Connecticut, Rhode Island, Montana, Missouri, Michigan, Maryland.

² Ind. Com., Vol. 17, p. 653; method substantially the same.

proportion which gives correctly the relative importance of the respective classes of causes."

After securing these per cents for every year from 1881 to 1903, for all the important causes, they were constructed into the "smoothed" curves of Chart IX. These curves graphically illustrate the relative importance of the various causes of strikes, from the *standpoint of growth*. Curve (a—b)¹ shows the percentage of strikes connected directly with the question of *wages*. It shows that, while wages still are the most important cause of strikes, the curve is rapidly declining,—having declined from more than 70% in 1882 to 41% in 1903. The average for the entire period (1881–1900) is, according to the Industrial Commission, 53.5%² which shows clearly how fallacious it is to base a conclusion upon such an average. That high general average is due largely to the very high average at the beginning of the period and indicates neither the decreasing importance of wages as a direct cause of strikes, nor the present state of affairs.

Curve (c—d)³ is the curve for the hours of labor. In the aggregate it remains about stationary. Curve (e—f) is the curve for the wages and hours combined and shows a decline from almost 83% to 61%, thus showing how fallacious is the statement that three-fourths of the strikes are due to wages and hours. For the period as a unit that statement is approximately correct, but it shows nothing of the declining importance of these causes, nor of their present position.

It is these curves, wages and hours, that are very generally recognized as the standard causes of strikes. It is not intimated that all strikes involving the questions of wages and hours are legitimate, and that all others are illegitimate; it is merely stated that generally wages and hours are pronounced as the standard causes and that the majority of the other causes are at least more questionable.⁴

¹ Everything that is in any way connected with wages.

² Ind. Com. Vol. 17, p. 653.

³ Decrease and against increase of hours.

⁴ Some of the men who say that wages and hours are the standard causes as compared with other causes are: Prof. Wyckoff, Princeton University; Prof. F. W. Rawles, Indiana University; Prof. Bogart, Oberlin College; Prof. A. P. Winton, Washington University; Prof. J. B. Clark, Columbia University; Prof. W. G. Sumner, Yale University; Prof. Glasson, Trinity University; Prof. W. C. Ripley, Harvard University; Prof. G. G. Wilson, Brown University; Wm. F. Tahler, National Civic Federation.

Chart IX.
Causes of Strikes in The United States.

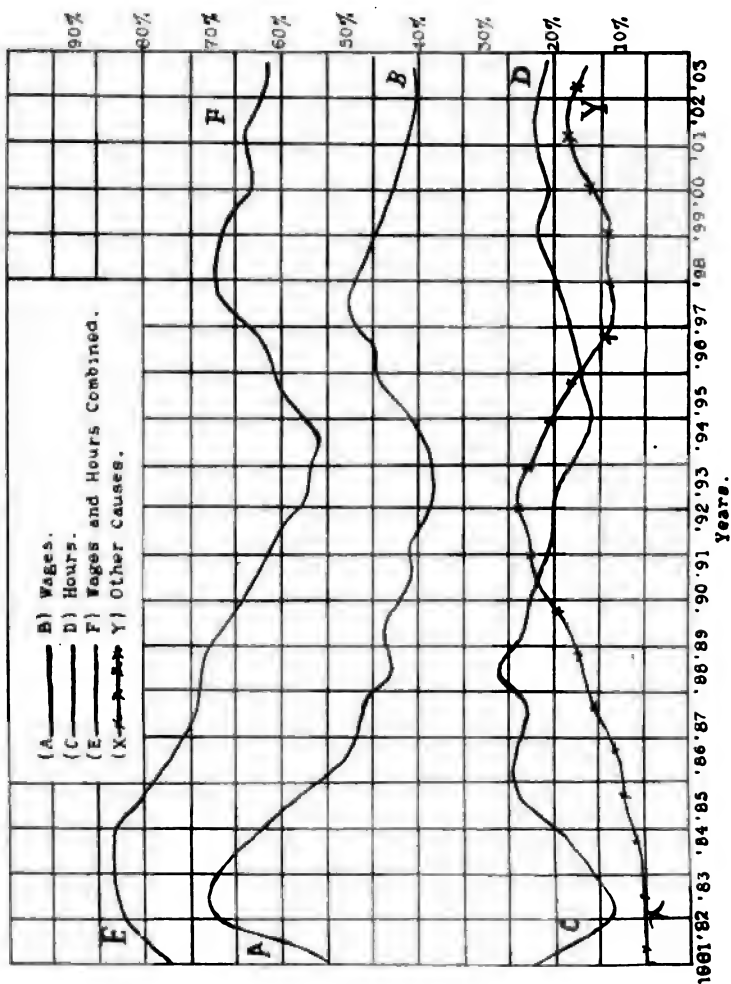
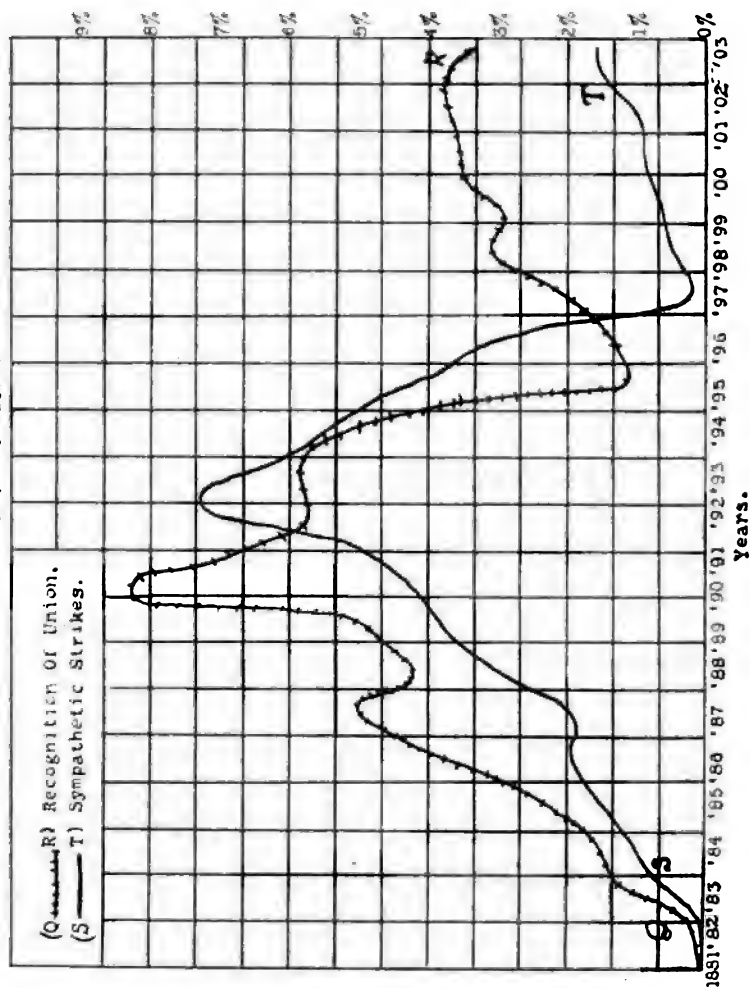


Chart IX. (Continued).



Now, it was previously shown that strikes are increasing in the United States.¹ These curves show that the increase is not due to an increase in the number of strikes concerning wages and hours, the standard causes. The increase consequently is due to other strikes than those directly connected with wages and hours.

The remaining curves of the chart show the growing importance of these other causes. Sympathetic strikes are the only important exception to the general rule. As curve (*s—t*) indicates, it is decreasing in importance, falling almost to zero in 1893. This is very probably due to the fact that, at about this time, the courts began to consider the sympathetic strike illegal. The causes which are increasing in importance, according to the chart, are the "closed shop," union rules, union scales, recognition of unionism, apprenticeship restriction, against non-union material, and some of those included in the general curve (*x—y*). The "closed shop," especially, is becoming of great importance as a cause of strikes. Although there are minor causes, not of the nature of those above mentioned, yet on the whole these curves indicate a gradual movement away from the purely standard causes, wages and hours, in the direction of more questionable causes. (Figures in Table X.)

It is often stated that many of the strikes for the closed shop are virtually strikes concerning wages. This, undoubtedly, is true in some instances, but one may well say: first, the strikes for the closed shop which have wages in the background are very probably a minority of the total. Second, granting that many of these strikes are virtually to maintain wages, so many other elements enter into the closed shop question that even then they must be placed in a class distinctly outside of that held by standard strikes directly involving wages and hours. Third, it must be remembered that all strikes involving wages and hours are not legitimate. One may well ask whether the number of illegitimate strikes included in the curves of wages and hours are not more than sufficient to counterbalance the number of legitimate strikes included in the "closed shop" curve.

¹ Chapter II.

TABLE X.—*Causes of strikes in the United States.*

YEAR.	WAGES.		HOURS.		CLOSED SHOP.		UNION RULES.		RECOGNITION OF UNION.	
	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.
	Pr. ct.	Pr. ct.	Pr. ct.	Pr. ct.	Pr. ct.	Pr. ct.	Pr. ct.	Pr. ct.	Pr. ct.	Pr. ct.
1881.....	52.5	52.5	28.4	23.4	2.8	2.8	.13	.13	0.0	0.0
1882.....	87.	70.3	2.8	11.9	.7	1.5	.14	1.25	.6	.2
1883.....	71.5	69.6	9.5	14.2	.1	.2	3.5	.85	.0	1.2
1884.....	63.3	66.1	15.3	17.4	4.1	1.7	.19	.92	.32	1.4
1885.....	73.	57.8	10.2	25.3	1.7	2.6	.31	1.12	5.1	2.3
1886.....	35.9	51.5	46.	25.7	1.2	3.	.48	.66	.9	3.8
1887.....	44.4	48.8	25.7	24.3	5.2	2.7	1.16	1.41	5.1	5.
1888.....	41.2	43.7	21.3	27.9	2.9	3.3	1.2	1.6	7.8	4.2
1889.....	49.5	44.9	18.3	23.6	2.9	3.9	3.9	1.7	6.3	5.1
1890.....	47.6	42.3	28.4	22.6	4.3	3.6	1.4	1.7	1.	8.2
1891.....	42.	42.3	24.4	20.5	4.2	3.9	.9	2.42	5.1	6.9
1892.....	31.3	38.	20.7	20.	3.8	3.6	1.2	1.83	20.8	5.7
1893.....	41.3	38.	11.1	18.	4.3	3.6	4.7	1.99	1.2	5.8
1894.....	28.	39.8	15.8	15.3	1.5	3.6	.96	1.95	.24	5.1
1895.....	47.7	45.1	18.2	15.4	4.4	3.2	2.2	3.39	1.6	1.4
1896.....	51.	46.	10.9	16.3	4.2	3.1	.72	2.75	1.6	1.6
1897.....	57.5	50.5	21.	17.7	1.8	3.2	8.4	2.84	2.4	1.96
1898.....	46.	46.	15.9	20.7	3.7	2.8	1.3	2.55	2.2	3.1
1899.....	50.6	45.	22.8	21.5	2.0	2.8	1.6	2.8	7.1	2.9
1900.....	35.9	42.9	23.	20.9	2.6	3.8	7.3	1.7	7.1	3.4
1901.....	41.	41.9	25.	22.5	4.	4.5	2.	2.4	1.	3.5
1902.....	41.	59.8	18.	22.1	7.	5.4	3.	2.9	5.	3.8
1903.....	41.	41.	24.	21.8	7.	6.4	5.	3.6	2.3	3.1

YEAR.	SYMPATHY STRIKE.		UNION SCALE.		APPRENTICE-SHIP.		NON-UNION MATERIAL.	
	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.
	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
1881.....	.07	.07	.13	.13	.26	.26	.....	.....
1882.....	.09	.07	3.7	1.4	.32	3.1	.....	.....
1883.....	.06	.7	.4	.96	3.8	1.9	.....	.....
1884.....	2.3	1.	.12	1.3	.19	1.9	.....	.....
1885.....	1.3	.5	.55	.5	.19	1.9	.....	.....
1886.....	1.4	2.	.38	1.	.33	.34	.....	.....
1887.....	2.9	1.9	1.08	1.76	.26	.46	.6	.6
1888.....	2.3	3.	2.9	2.87	.75	.66	.8	.6
1889.....	1.89	3.7	3.9	2.87	.77	.68	.4	.4
1890.....	6.7	4.2	1.9	3.4	1.2	.81	.13	.4
1891.....	4.9	4.8	4.6	3.6	.43	.74	.12	.3
1892.....	5.6	7.6	1.9	3.4	.94	.61	.6	.2
1893.....	5.2	6.2	5.9	3.26	.89	.38	.07	.2
1894.....	15.6	5.3	2.1	2.76	.09	.34	.03	2.
1895.....	.06	4.2	1.8	2.48	.06	.15	.09	1.9
1896.....	2	3.2	2.1	1.6	.19	.29	1.4	1.9
1897.....	.13	.2	.54	1.3	.03	.33	.06	2.
1898.....	.29	.4	1.6	1.14	.99	.53	.1	2.1
1899.....	.27	.6	.88	1.5	.36	1.49	.41	.23
1900.....	.99	1.2	.61	2.2	1.1	1.69	.25	.28
1901.....	1.3	1.3	4.	2.7	5.	1.68	.....	.....
1902.....	3.	1.7	4.	3.3	1.	1.8	.....	.....
1903.....	1.	1.9	.....	.....	1.	1.8	.....	.....

16th Annual Report U. S. Dept. of Labor.

Ab—Absolute.

Sm—Smoothed by five year average.]

The vital and certain point, however, is that there is a gradual shifting, consisting of a decreasing per cent of strikes directly connected with wages and hours, and an increasing per cent involving matters pertaining to trade unionism. The common statement that demands involving wages and hours are the cause of three-fourths of the strikes is not true to-day; and the statement that they are still the most frequent cause of strikes is true, but their relative importance is decreasing. The decrease is so rapid, that if the average rate of decrease is considered, the fifty per cent mark will be reached in less than four years. It may in fact be questioned whether or not it has not already been reached, as it is certainly true that the great majority of the large strikes of 1904 did not directly involve either wages or hours.

It may be well, here, to briefly indicate the effect which this shifting of causes has upon the success and failure of strikes. In as much as the statistics¹ of causes are not given on the basis of the number of causes for each year, it is practically impossible to trace the per cent of success and failures from year to year. The majority of the strikes are due to more than one cause and this is more true of the end of the period than of the beginning,—so that a change in the per cent of success and failure from year to year on the basis of these statistics after they are tabulated by separate causes would not result in a reliable conclusion. The only safe thing to do is to accept the *average* per cents given by the Labor Commissioner for *groups of causes* for the aggregate period of twenty years. They are given in Table XI.

¹16th Ann. Rept., U. S. Dept. of Labor.

TABLE XI.—*Success of strikes on the basis of causes.*

Causes.	Successful or partly suc- cessful.	Unsuccessful.
	Per cent	Per cent.
Wages	70.15	29.85
Increase of wages and reduction of hours.....	83.57	16.43
Hours reduced.....	58.09	41.91
Against reduction of wages	45.68	54.32
New scales	65.43	34.57
Hours reduced, etc.....	32.47	67.53
Hours reduced, etc.....	100.	0.
Increased wages, etc.....	100.	0.
Against reduction of wages, etc.....	100.	0.
Increased wages, etc.....	92.69	7.31
Closed shop.....	68.59	31.41
Sympathetic strike.....	27.36	72.64
Recognition of union.....	12.37	87.63
Recognition of union, etc.....	30.87	69.13
Union rules.....	46.66	53.34
Union rules and scales.....	69.43	30.57
Non-union material.....	0.	100.

16th Annual Report of U. S. Commissioner of Labor.

While these figures do not necessarily indicate the present state of success and failure "by causes," there is every reason to believe that they show approximately the relative positions of the various causes. It appears that in the aggregate, strikes directly connected with wages and hours are more successful than strikes not due to such standard causes.¹ It is also to be noted that the per cent in the case of a combination of either wages or hours with some other cause is generally lower than the per cent in the case of either wages or hours alone, or wages and hours combined. Yet statistics² show that the per cent of success for all strikes in the aggregate is not decreasing. Evidently, then, the increasing success in strikes involving wages and hours is great enough to counterbalance the decreasing success which must accompany those strikes which involve more questionable demands.

It is evident that these statistics of the causes of strikes may have important significance relative to many complex labor problems. It is not here proposed to argue just what significance they have, as that would require a determination of the legitimacy or illegitimacy of each individual cause.³ Whenever

¹ Blackmar in his *Economics* points this out.² 16th Annual Report of U. S. Dept. of Labor.³ Which the writer is wholly incapable of doing.

that becomes necessary it is merely to indicate what they may signify.

(1) By indicating which causes are increasing in importance and which are decreasing, they show definitely of what the increase, previously shown, consists. Thus, if once the justice or evil of each important cause is determined, these statistics will mathematically demonstrate whether the increase of strikes is dangerous or justifiable.

(2) These statistics of "causes" throw light upon the question as to whether strikes are or are not a "paying institution." It is self evident that there is a wide difference between a strike for legitimate causes and one for illegitimate causes. Inasmuch as in the aggregate the majority of strikes have involved causes generally recognized as justifiable (wages and hours), one may say with some certainty that on the whole strikes have "paid." But these statistics show also, that these causes are decreasing in importance. The final answer must depend, therefore, upon the legitimacy of those causes which are increasing in importance.¹ If they are not generally justifiable the answer is that, while strikes have in the aggregate "paid," the degree to which this is true is rapidly declining.

(3) These statistics furnish a fair index of the policies upheld by trade unionism. "Causes" signify demands or policies for which the strikers stand. If the unions strike more and more for the closed shop and similar demands, as the figures show, and less and less for other demands, it is safe to say that they are laying increasing stress upon those demands for which they strike most frequently. Once determine, therefore, whether the closed shop, etc., are legitimate, and these statistics graphically demonstrate whether trade unionism is pursuing a good or bad course of development.

(4) Finally, these statistics may have an important significance relative to voluntary methods of settling strikes. The success of voluntary methods is closely connected with the "cause" of the strike. It is evident from the very nature of the subject, that strikes involving the closed shop and similar

¹Statistics of the success and failure of strikes according to causes, also enter here. See page 55.

demands are more difficult to arbitrate than strikes for the improvement of wages and hours.¹ In the case of the closed shop there is no opportunity for compromise,—the shop being either open or closed. State Boards of Arbitration testify that they meet with almost uniform failure in the case of strikes due to causes other than wages, hours or physical conditions of labor. The apparent increase in the success of arbitration boards² is but superficial, as that increase is almost entirely in the case of strikes involving wages and hours. The statistics of causes of strikes show, therefore, that voluntary arbitration can probably never solve the labor problem as long as the development of strikes pursues its present course.

The case for conciliation is similar. The hostile parties come together much more readily when the trouble concerns a matter of wages or hours than when a matter such as the closed shop is involved. There is abundant testimony to show that many employers concede the right of labor to have a voice in the case of wages and hours but absolutely refuse to permit the enforcement of a closed shop, dictation of union rules, or similar demands.³

Trade agreement, too, is affected by the "cause" of strikes. In the majority of closed shop agreements the element of duress⁴ is present. Not only is such an agreement illegal,⁴ according to the latest decision, but it is evident that an agreement based upon duress will not stand as firmly as one entered into willingly. It is reasonable to believe that the joint agreements would advance much more rapidly if laborers' demands were other than these statistics show them to be.

Whether the demands of employees are just or unjust, the statistics show, undoubtedly, that the problem of voluntary settlement of strikes is becoming more difficult.

¹Secretary of Mich. State Board of Arbitration (letter). Ill. State Board of Arbitration in "Employers and Employees." Col. State Bd. of Arbitration (letter).

²Reports of State Boards of Arbitration and Mediation.

³Letters from employers (Hesperian Joint Debate Team of 1904, Univ. of Wis.).

⁴U. S. Industrial Commission. Vol. 17. Cases declaring closed shop agreements illegal: Kellogg Switchboard Case, Judge Adams, Ill., 1904; Edwards v. Boston, 32 Am. L. Rev., 624, 1904; Judge Ludwig's Case, Milwaukee, 1904; Judge Cooley's Case (N. Y. Sup. Ct.), 1904.

(b) Foreign Countries.

As in the case of the simple increase or decrease of strikes, it may be of interest to briefly examine the causes of strikes in foreign countries. In few instances do the statistics cover a sufficient length of time to make possible an absolutely certain determination of an evolution. They show, however, what the present position of the various causes is, and when combined with historical facts of the period preceding the accurate statistics, permit at least a fairly accurate determination of the general movement.

The very early experience of England¹ as to "causes" indicates that demands relative to wages were then pre-eminent and that those involving the general conditions within the shop comprised the majority of the remaining causes. There were also some early strikes in defense of trade unionism, but the hostile legislation condemning combinations made them comparatively rare.

TABLE XII.—*Causes in Great Britain.*

Cause.	1889	'90.	'91.	'92.	'93	'94	'95.	'96	'97	'98.	'99	1900	'01.	'02	'03.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Wages	74	61	53	54	61	49	47	53	61	63	64	67	63	60	60
Hours	2	2	3	2	6	3	3	5	5	4	3	5	5	5	4
Bt. classes of workers	3	3	4	5	4	5	5	5	1	1	1	1	3	1	3
For or against employees															
For or against certain officials	1	1	2	2	2	3	2		1	1	2	1	1	1	
Shop rules	16	16	21	19	15	19	21	15	14	13	9	9	12	14	14
Trade unionism	3	8	8	6	9	6	8	10	6	7	6	7	5	9	6
Sympathetic	2	2	1	2	1	1	1	2	2	1	3	1	1	2	
Apprenticeship		1	1		1	2	3		1	2	2	1	3	1	1
Women labor		1	1	2		2	3		2	2	1	1			
Child labor		1	1	2	1	2	3				1	1			
Unskilled labor				2	1	2	3								2
Reinstatement									5	3	6	7	5	6	6

Sources the same as those given in the tables for the number of strikes and the number of employes affected by strikes. See Tables VIII and IX. The above per cents are secured in the same way as those for the United States were computed. It is not by dividing the number of strikes due to a certain cause and combination of causes by the total number of strikes; but the statistics were divided into separate causes and each separate cause divided by the total number of causes. Thus, the per cents may not be exactly as those which are sometimes presented.

Table XII covers the period of accurate statistics. A careful examination of the Table will show that it indicates no such development as appears in the United States. Strikes directly connected with wages are easily the most important; next comes

¹ Webb: History Trade Unionism; Royal Commission of Labor, 1894; Howell: Trade Unionism Old and New; Howell: Labor, etc.; Drage: The Labor Problem, etc., etc.

those relative to shop rules; and third, trade unionism, which corresponds fairly well with the American term "recognition of unions." All of them remain about stationary during this later period. A glance at the figures show, also, that there is no appreciable change in any of the remaining causes.

A comparison with the United States reveals many differences and few similarities. The obvious similarities are that in both wages constitute and always have constituted the chief cause. In both there are also a large variety of minor causes such as the sympathetic strike, strike against apprentices, etc. The noticeable differences are (1) the per cent of strikes due to wages in England is considerably higher than in the United States. (2) Hours of labor are a very unimportant cause in England, while in the United States they are very important. (3) The per cent of strikes demanding the recognition of union¹ is higher in England. (4) The closed shop, as a cause,—so pronounced in the United States,—is comparatively rare in England.² (5) The shifting from one set of causes to another of a different character, so characteristic of the United States, is lacking in England.

The very early history of *French strikes* shows that wages were then in the great majority and that occasionally strikes occurred relative to "general conditons," discharge of officials, sympathetic strikes, "against poor raw material," for improved hours.³ The later period is described in Table XIII. From these statistics it appears that wages are still in the majority and that demands for shorter hours and against the discharge of employees have become fairly important as causes. The remaining causes are all unimportant and outside of demands concerning the rules of the workshop none of them are increasing in frequency. Strikes concerning trade unionism are noticeably absent, because of the comparative unimportance of labor organization in France. Within the period covered by the Table the per cent of strikes due to wage demands is much like

¹The term "trade unionism" used in the English statistics, is not identical with the American term "recognition of union."

²There are some strikes in England for the closed shop included in the statistics under the term "between classes or workers" and "for or against employees," but they are unimportant.

³English Royal Commission of Labor, 1894. Vol. 6.

that of England except in the last two years¹ when it is considerably higher. The per cent relative to hours is much greater than in England but much less than in the United States. Finally, as in England, there is no general shifting from one set of causes to another during the period indicated by the statistics.

TABLE XIII.—*Causes in France.*

Cause.	1890	'91.	'92	'93	'94	'95.	'96.	'97.	'98.	'99.	1900	'01.	'02.	'03.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Wages	63	60	63	59	60	56	56	60	58	62	60	...	76	72
Hours	15	8	7	14	8	10	7	6	6	10	8	...	7	10
Union rules	1	4	2	...	...	...	...	...	...	...	...	...	...	...
General conditions .....	...	...	...	6	7	6	4	7	7	5	2	...	7	9
Recognition of union	1	4	2	...	...	...	...	...	...	...	...	...	...	...
Against discharge	6	6	7	6	...	6	6	7	6	6	7	...	8	14
For discharge	6	8	11	7	12	12	10	10	8	9	9	...	7	12
Fines	3	3	3	...	6	...	4	2	3	2	3	...	3	3
Apprentices .....	...	...	...	2	4	4	2	1	1	1	1	...	1	3
Shop rules	1	1	2	2	2	4	4	3	6	4	3	...	4	6
Piece work .....	...	...	...	2	2	2	3	2	3	2	2	...	3	4
Sympathetic strike .....	...	...	...	1	2	...	...	...	...	...	...	...	...	...
Reinstatement .....	...	...	...	...	...	...	...	...	...	...	...	...	8	...

See explanation of Table XII.

In *Austria*, too, the early period is practically a history of strikes concerning wages,² with hours appearing as a cause slightly later and with some strikes concerning "contract conditions" and similar matters. Accurate statistics are available only from 1894 to 1902. They show that during this later period, practically all the causes remain of about stationary importance. The comparative absence of trade unions in Austria accounts for the absence of that element as one of the causes. The remainder of the Table is self-explanatory (Table XIV).

¹Too much stress must not be placed upon these last two years, as a slight difference in the computation of these later years was necessitated, and this may account for the differences.

²Eng. Royal Com. Labor, Vol. 9.

TABLE XIV.—*Causes in Austria.*

Cause.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
	Perct.	Perct.	Perct.	Perct.	Perct.	Perct.	Perct.	Perct.	Perct.
Wages	34.2	23.3	26.8	27.8	31.5	27.8	27.0	48.2	51.7
Hours	18.5	11.2	.6	10.8	12.5	14.8	13.2	14.6	16.0
Discharge of employees	5.0	7.4	6.9	6.6	6.0	4.7	4.4	8.9	2.7
Against discharge	7.2	7.1	6.2	4.7	4.4	7.3	7.2	1.1	11.4
Reinstatement	8.8	7.4	5.7	5.3	6.0	5.2	8.6	.....	.....
Shop rules .....	.3	10.0	7.8	9.8	9.2	9.7	7.6	4.7	7.7
Work on holidays	7.5	2.9	3.8	4.9	1.9	4.6	5.0	.....	.....
General conditions .....	.....	4.2	1.6	1.7	1.4	2.5	1.4	.....	.....
Recognition of com. ....	.....	1.3	2.1	2.1	2.3	2.0	3.8	.....	.....
Piece work .....	.....	2.6	2.8	3.1	3.3	1.5	1.7	.....	.....
Apprentices .....	.....	1.1	.7	.....	.8	.5	.9	.....	.....
Bad treatment .....	.....	1.1	.3	2.5	1.5	.6	1.0	1.2	.6

See explanation of Table XII.

The statistics of Italy go back to 1879, but they do not classify the causes minutely. Table XV represents these statistics in the percentage form and is also self-explanatory. "Wages" as a cause have about the same relative position as they have in England and France. The per cent for hours is similar to France, but less than in Austria and very much less than in the United States. The "other" causes, at least during the earlier period, concerned chiefly the sympathetic strike, the "inferior quality of the first material given out to workmen, special technical conditions of manufacturers, internal regulations of the workshop, to obtain the dismissal of outside hands, ill feeling against the managers and foremen of factories, imposition of fines, opposition to special taxes and quarrels with municipal authorities."¹ A glance at the Table shows that there is, in the aggregate, no general change in the character of strike causes in Italy.

TABLE XV. *Causes in Italy.*

Per cent. of strikes due to important causes

Cause.	1879 to '91.	'92.	'93.	'94.	'95.	'96.	'97.	'98.	'99.	'00.	'01.
Wages	64	51	60	56	53	65	61	61	54	55	66
Hours	9	7	10	14	7	4	8	7	8	10	7
Others	27	39	30	30	40	31	31	32	38	35	27

See explanation of Table XII.

The causes of strikes in *Germany* have passed through three quite distinct stages of development. From 1847 to 1868 "a

¹ Signor Bodio: *Statistica Delgi Scioperi*, 1892.

large proportion of strikes were connected with the desire to assert the right of combination, as yet unrecognized by the majority of German governments."¹ From 1868 to 1878 the great majority were concerned with wages. Then the law of 1878, against Social Democracy, and the trade depression practically did away with strikes until 1882. At this time began the modern development which is described in Table XVI.² While changes in the development of causes have occurred, no general shift from one set of causes to another has occurred since 1868 or after the right of combination was secured.

As in most other countries, the early history of *Belgium* shows a majority of strikes were due to disputes relative to wages.³ The present position of the various causes is shown in Table XVII. Wages are still the cause of the majority of *Belgium* strikes; hours, as in *England*, form but a small per cent, while the per cent under the general term "tradeunionism" has evidently become of undue importance during the last few years.

TABLE XVI.—*Causes in Germany.*

Cause.	1899.	1900.	1901.	1902.
	Prct.	Prct.	Prct.	Prct.
Wages.....	56	46	48	52
Hours.....	17	13	10	11
Discharge (for).....	2	3	5	4
Reinstatement.....	7	7	8	8
Holiday work (against).....	.....	1	1	4
Sanitation.....	.....	2	2	1
Against use of materials from striking firms.....	.....	1.4	1.1	1.1
Better treatment.....	.....	1	1	1
Recognizing committee.....	.....	2	3	3
Shop rules.....	.....	2	3	5

See explanation of Table XII.

Aside from this very recent increase of the per cent for trade unionism, no change is noticeable in the case of the purely industrial strikes. Since 1886, however, numerous "political" strikes have occurred, in which the workmen struck for increased political rights. The government does not, however, consider these as strikes but as political and socialistic agitations.⁴ If confined purely to industrial strikes no general change,

¹ British Royal Com., Vol. 5, Foreign Reports.

² German strike statistics go back only to 1899.

³ British Royal Com. (Foreign Reports), Vol. 4.

⁴ These political strikes are not included in the statistics.

as in the United States, is perceivable. The increasing per cent in the case of trade unionism is not at the expense of the primary causes,—wages, hours, and general conditions, but at the expense of minor causes.

TABLE XVII.—*Causes in Belgium.*

Cause.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
	Perct.	Perct.	Perct.	Perct.	Perct.	Perct.	Perct.	Perct.
Wages	58	53	56	62	63	.....	.....	51
Hours	3	3	1	2	3	.....	.....	7
General conditions	11	9	4	10	10	.....	.....	7
Piece work	2	2	.....	1	.....	.....	.....	.....
Woman labor	1	.....	.....	1	1	.....	.....	.....
Shop rules	1	8	4	1	1	.....	.....	8
Fines	1	2	1	1	1	.....	.....	8
Discharge (for)	10	6	11	11	3	.....	.....	.....
Reinstatement	12	13	18	8	9	.....	.....	.....
Trade unionism .....	.....	.....	2	3	5	.....	.....	20

See explanation of Table XII.

The early strikes of *Holland* were concerned chiefly with wages.¹ Immediately in connection with this came the question of machinery inasmuch as the introduction of machinery tended to reduce wages. Other strikes concerned the payment of wages in German money, the bonus system, the truck system and hours of labor. "The question of hours has hitherto played a subordinate part in labor difficulties in Holland and consequently few strikes have arisen from this cause." The present position of the causes in Holland is evident from Table XVIII. There is evidently a close resemblance between the causes of Holland and those of Belgium.

TABLE XVIII.—*Causes in Holland.*

Per cent. of Strikes due to Important Causes.

Cause.	1901.	1902.	1903.
	Perct.	Perct.	Perct.
Wages	73	55	49
Hours	3	6	9
Trade unionism	4	1	5
Reinstatement	13	14	16
Rules	1	1	6

See explanation of Table XII.

¹ British Royal Com. (Foreign Reports), Vol. 9.

The early strikes in Denmark, as in Germany, were largely to enforce the recognition of unionism. Then wages became the foremost cause. The present condition is shown in Table XIX. It is generally the same as in the case of Holland and Belgium.

TABLE XIX. - *Causes in Denmark.*

Per cent. of Strikes due to Important Causes.

Cause.	1897.	1898.	1899.
Wages.....	58	78	66
Hours.....	.....	2	1
Shop rules.....	14	7	9
Personal disputes.....	6	4	8
Trade unionism.....	4	2	3

See explanation of Table XII.

In all these countries,¹ except Germany and Belgium, where the first strikes were chiefly concerned with the demand to secure the right to strike, the early strikes were practically all concerned with wage disputes. On the other hand, the statistics for recent years in all these countries show that wages still hold the foremost position but that other causes have also arisen. From this it would appear that, in the aggregate, the relative importance of wages as a cause has everywhere decreased. As was shown, the early strikes of the United States were also due to wage disputes in the great bulk of instances and that the per cent directly connected with wages is much below the majority (41%). In this there is, therefore, quite general agreement.

Yet it is quite a different proposition when the very early history is omitted and the comparisons are based upon that period in which the strike had reached a position *beyond the*

¹The statistics for other European countries have not been available and their relative unimportance demands no lengthy discussion.

Switzerland—Says M de Queker (*Etudes sur les Questions Ouvrières*, p. 146): "Strikes have arisen from two causes: either they aim at an advance, or they originate in some of the thousand and one questions concerned with the condition of labor." Hours not at first important, but becoming more so (Vol. 7, British Royal Com., Foreign Repts.). Tradeunionism during certain periods, especially 1870-1889. Union rules is a cause. Agitation of the "Internationale" is behind many of the strikes under pretense of some other cause.

Hungary—Practically all wages and hours and general working conditions. (Royal Commission, Vol. 10, Foreign Reports.)

Russia—Wages, hours and general conditions, with recent strikes for political concessions to the workmen. In this respect Russia resembles Belgium. (Early history from Royal Commission, Vol. 10.)

Spain and Portugal—Very few strikes.

experimental stage,—beyond the stage of mere occasional, sporadic upshots of wage-earners and had become a recognized institution. When comparisons are then made, it appears that the development of strike causes places the United States quite alone among the important industrial nations. In almost all the foreign countries considered, the relative position of the various causes remains practically unchanged. In some instances the minor causes show tendencies to increase or decrease and in two countries trade unionism seems to have become important during the last few years;¹—but nowhere do the standard causes, wages and hours (and in most of these countries other conditions of labor must be included under the term “standard causes”) decrease in importance. The shifting away from wages and hours, toward a group of more questionable causes, so characteristic of the United States, is nowhere noticeable in Europe after the strike had passed beyond the experimental state.

¹ Germany and Belgium.

CHAPTER IV.

EFFECT OF TRADEUNIONISM UPON THE STRIKE.

President Samuel Gompers says: "Language fails me to express how earnest are the organized laborers in their desire to avoid and to reduce the number of strikes."¹ On the other hand President David M. Parry in a chapter headed "Strikes are Outbursts of Mobocracy"² says: "I have only to point to the hundreds of strikes that have occurred in the last year, each one of which was conducted under the auspices of unionism and each one of which was a violent defiance of law. . . . the spirit of mob has brooded over the country during the last year as it has never brooded before, and in looking for the cause I ask you not to overlook the labor agitator, the chief ranter against law and the worst fire-brand of anarchy with which we are now afflicted."

Thus openly declare the two opponents, the Tradeunion vs. the modern Employers Association. The one claims that the effect of tradeunionism upon the strike is wholly good; the other claims that it is wholly bad.

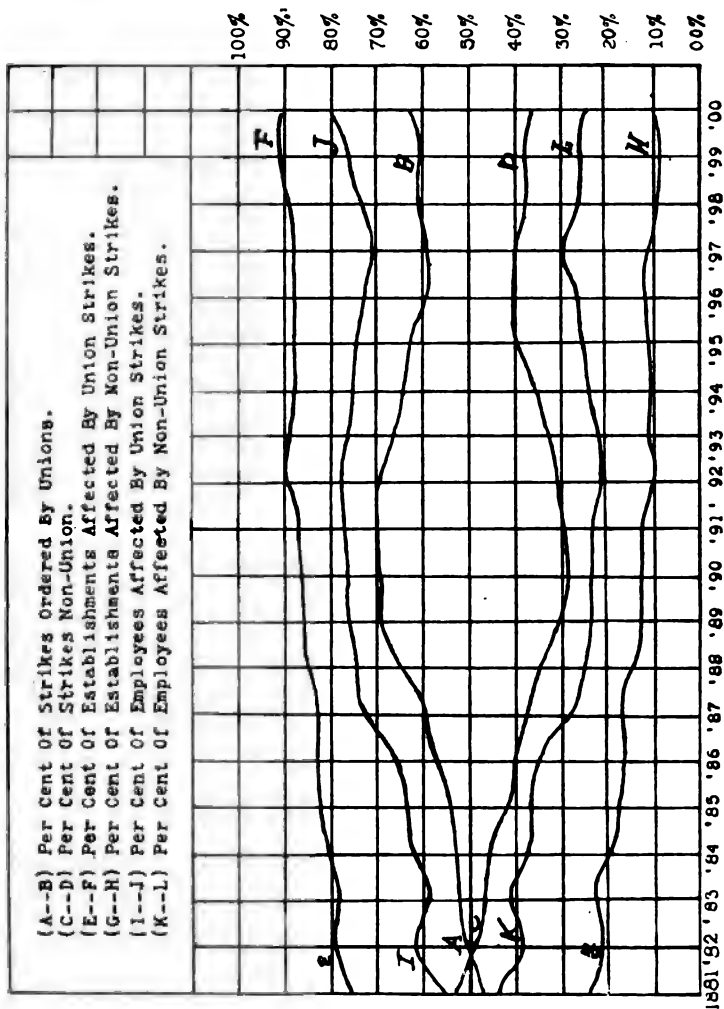
What do the statistics of strikes indicate relative to the effect of tradeunionism upon strikes?—The first problem is to determine whether the effect is to increase or to decrease their number.

It is here essential to learn the relative frequency of union as compared with non-union strikes. On the basis of the absolute number of strikes from 1881 to 1900, 63.4% were ordered by unions; on the basis of the number of establishments affected by strikes, 88.1%; and on the basis of the number of employees affected by strikes 73%. Chart X presents the figures for each year so as to signify a movement. Curve (a—b)

¹In "Labor and Capital," by Peters, p. 62.

²"Mob Spirit in Organized Labor."

Chart X.
Per Cent Of Union And Non-Union Strikes.



is the "smoothed" curve representing the per cent of strikes ordered by unions, and in the aggregate it shows an increase.¹ Curve (c—d) indicates a corresponding decrease in the per cent of non-union strikes. But better statistics are available. Curves (e—f) and (g—h) are respectively the per cent of establishments affected by union and non-union strikes. The union curve shows a decided increase, while the non-union curve shows a corresponding decrease. Curves (i—j) and (k—l) indicate respectively the per cent of union and non-union strikes on the basis of the number of employees affected. Again, there is an unmistakable increase in the case of the former, with a corresponding decrease in the case of the latter. (The actual per cents are given in Table XX.)

TABLE XX.—*Per cent of union and non-union strikers.*

YEAR.	PER CENT. OF STRIKES.				PER CENT. OF ESTABLISHMENTS AFFECTED				PER CENT. OF EMPLOYEES AFFECTED BY STRIKES.			
	Union.		Non-union.		Union.		Non-union.		Union.		Non-union.	
	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.	Ab.	Sm.
1881	47.1	47.1	52.9	52.9	76	76	24	24	55.7	55.7	44.3	44.3
1882	48.0	50.5	52	49.5	76	78.6	24	21.4	64.78	61.96	35.22	38.04
1883	56.6	52.3	43.4	47.7	84	78	16	22	65.4	58.37	34.6	41.63
1884	53.9	53.4	46.1	46.6	83	80.4	17	19.6	40.19	62.25	59.81	37.75
1885	55.9	57.1	44.1	42.9	71	82.6	29	17.4	65.8	64	34.2	36
1886	53	56.4	47	40.6	88	83.2	12	16.8	75.1	65.59	24.9	34.41
1887	66.3	62.1	33.7	37.9	87	82.6	13	17.4	73.6	72.99	26.4	27.01
1888	68.1	65.2	31.9	34.8	87	86.4	13	13.6	73.28	74.85	26.72	25.15
1889	67.3	69.5	32.7	30.5	80	87.2	20	12.8	77.18	75.33	22.82	24.67
1890	71.3	70.4	28.7	29.6	90	88	10	12	75.1	76.03	24.9	23.97
1891	74.8	70.7	25.2	29.3	92	88.2	8	11.8	77.5	76.5	22.5	23.95
1892	70.7	69.8	29.3	31.2	91	90	9	10	77.1	77.7	22.9	22.30
1893	69.4	66.3	30.6	33.7	88	89.6	12	10.4	75.6	76.46	24.4	23.54
1894	62.8	64.3	37.2	35.7	89	89.2	11	10.8	83.2	75.4	16.8	24.6
1895	54.2	61.2	45.8	38.8	88	89.4	12	10.6	68.9	74.4	31.1	25.6
1896	64.5	59.4	35.5	40.6	90	88.6	10	11.4	72.1	73.3	27.9	26.7
1897	55.2	59.2	44.8	40.8	92	89.2	8	10.8	73.5	70.9	26.5	29.1
1898	60.4	61.5	39.5	38.5	84	84.8	16	10.2	69.1	73.2	30.9	26.8
1899	62	61.3	38	38.8	90	90.1	8	9.9	70.8	75.06	29.2	26.1
1900	65.4	63.1	34.6	36.9	91	90	9	10	80.6	80.6	19.4	25.6

16th Annual Report U. S. Dept. of Labor.
Bul. U. S. Labor Department—Vol. 56.

Two contentions arise relative to these statistics. First, it is actually claimed at times that the per cent of strikes in the hands of unions is decreasing² and the per cent of non-union strikes increasing. This conclusion, as in the case of the simple

¹ Method of smoothing same as that previously described.

² Adams: Labor Problems.

increase or decrease of strikes, is due to a wrong method of statistical tabulation.¹ The second contention arises relative to the present frequency of union and non-union strikes. This is due to the usual error of accepting the average of the entire period² of statistics as indicative of the present situation. In the case of the simple number of strikes, this is accidentally about correct, but is very false in the case of the number of employees affected by strikes. The average would indicate that 88.1% of the total number of establishments affected by strikes were affected by union and 11.9% by non-union strikes; while in 1900 the actual per cents were respectively 91 and 9. On the basis of the number of employees affected by strikes the average per cents are 73.8 and 26.2 respectively, while the actual per cents of today (1900) are 80.6 and 19.4 respectively.

Now, the fact that the great proportion of strikes are instigated by unions indicates nothing of certainty as to the effect of tradeunionism upon strikes. The most superficial observation will show that much of this is due to the nature of the employment of unorganized workmen.³ As a general rule the skilled trades are those in which unionism flourishes; and the unskilled trades those in which unionism is weak or practically unknown. Says the United States Industrial Commission: "It may be laid down as a general proposition, almost axiomatic, that strikes are more likely to occur in trades or under conditions where there is a reasonable chance of success than where there is little chance of success. The chance of success is greater where workmen are most necessary to the employer, and where they are most intelligent, best paid, and most strong generally. . . . It obviously follows that strikes will usually be most prevalent in organized trades."⁴

The increasing per cent of union strikes and the decreasing per cent of non-union strikes, also, show nothing vital against the union, for much of that is probably due to the increase of territory covered by the union, so that men who formerly struck as non-union men became organized and struck as unionists.

¹The average depends upon the particular period accepted as the basis.

²U. S. Labor Department Repts. (Strikes and Lockouts). C. D. Wright—N. Am. Rept. Vol. 174. (Gilman: Methods of Industrial.

³U. S. Industrial Commission, Vol. 17, p. 638-9.

⁴Ib., p. 639.

Yet these curves very definitely explain the contention relative to the effect of tradeunionism upon the increase or decrease of strikes. The explanation is found when the curves of the per cent of strikes are compared with the curves of the per cent of establishments and employees affected by those strikes. Note the curves in the case of union strikes. For the first ten years of the period (1881-1900) the per cent of union strikes increases more rapidly than either the per cent of establishments or employees affected by strikes. For the last ten years the very opposite is the course of development,—the per cent of union strikes increases much more slowly than the per cent of establishments and employees affected by union strikes. This exactly coincides with the movement of tradeunionism itself. During the first ten years, unions were generally, (not all) newly organized, many times for the express purpose of remedying some grievance by means of a strike. During the last ten years, unions had generally become comparatively more experienced.

The curves show, therefore, that newly organized unions generally strike very frequently,—the number of strikes increasing more rapidly than the number of establishments and employees affected. But as the unions become experienced and have remedied the immediate grievances for which they were formed, they tend to *check the number of strikes and increase the size of the strikes*, i. e., the per cent of union strikes increase more rapidly than the per cent of establishments and employees involved.

Perhaps, this is better shown by the curves of Chart XI. Curves ($x-y$) and (x^1-y^1) show respectively the number of establishments and of employees affected *per strike*; i. e., they graphically indicate the average size of union strikes from year to year. A glance will show that they substantiate the results of Chart X. During the first stages of unionism the size of the union strike generally decreases,—then increases.¹ (Figures in Table XX.)

¹ Method—Divide the number of establishments and employees affected by the number of strikes for the same year. Smooth the curves.

Chart XI
Employees And Establishments Per Strike

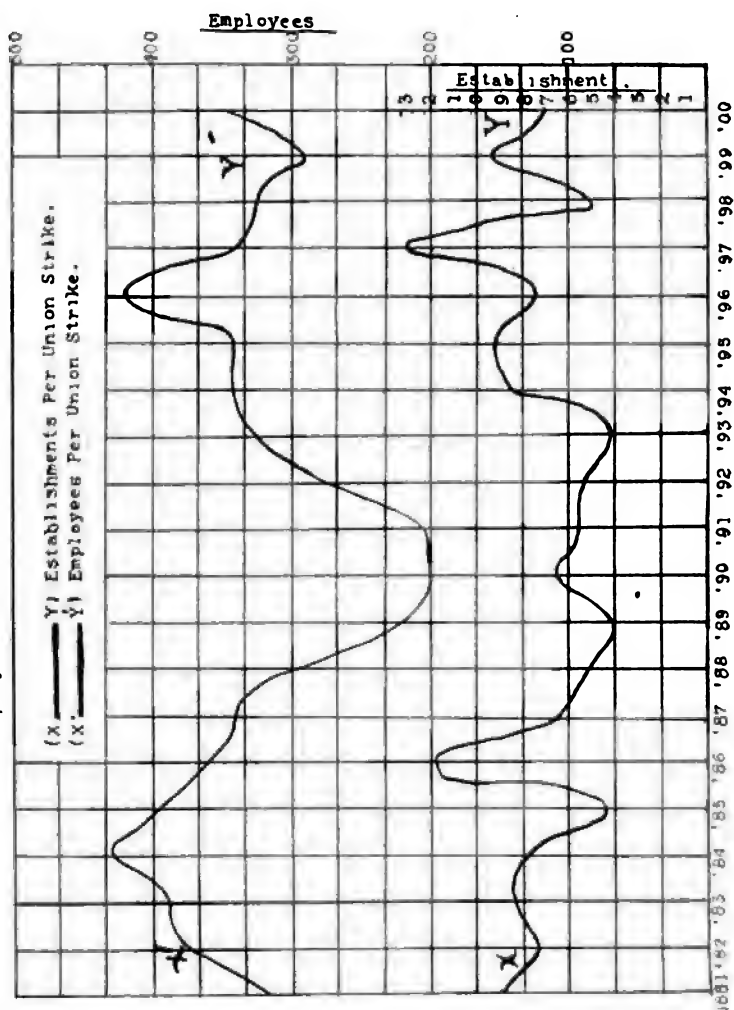


TABLE XXI.—*Employees and establishments affected per union strike.*

Year.	Union strikes.	Employees affected by union strikes.	Non-union strikes.	Employees affected by non-union strikes.
1881.....	222	72,052	249	57,469
1882.....	218	100,192	256	54,479
1883.....	271	97,843	207	51,920
1884.....	259	87,944	204	59,110
1885.....	361	159,677	284	83,038
1886.....	780	381,983	672	126,061
1887.....	952	279,728	483	99,944
1888.....	616	106,151	288	59,403
1889.....	724	192,580	351	56,979
1890.....	1,306	264,142	525	87,650
1891.....	1,284	226,437	432	65,502
1892.....	918	159,342	380	47,329
1893.....	906	201,055	399	64,879
1894.....	847	549,610	501	110,725
1895.....	658	270,699	555	121,619
1896.....	662	174,025	363	67,120
1897.....	596	301,285	482	107,106
1898.....	658	172,067	418	76,935
1899.....	1,115	295,492	682	121,580
1900.....	1,164	407,094	615	97,972

Year.	Employees affected per union strikes.		Employees affected per non-union strikes.		Establishments affected per union strikes.	Establishments affected per non-union strikes.
	Ab.	Sm.	Ab.	Sm.		
1881.....	324.5	324.5	230.7	230.7	9.9	2.8
1882.....	459.5	381.6	237.8	237.4	7.3	2.1
1883.....	361.	391.	250.8	218.7	8.5	2.1
1884.....	367.9	426.6	289.7	250.2	8.2	1.9
1885.....	442.2	393.5	282.3	245.0	4.4	2.3
1886.....	502.6	356.4	187.5	222.2	11.6	1.8
1887.....	293.8	338.	204.8	196.7	6.0	1.7
1888.....	175.5	288.	136.8	171.6	4.9	1.5
1889.....	265.9	222.7	162.3	164.4	4.1	2.1
1890.....	202.2	198.6	166.7	148.3	6.5	1.6
1891.....	176.3	207.7	124.6	153.5	5.7	1.4
1892.....	173.5	284.5	124.5	165.5	5.5	1.2
1893.....	221.8	326.3	162.6	176.9	4.4	1.8
1894.....	648.7	343.6	221.	182.4	8.5	1.8
1895.....	441.3	341.6	219.1	201.9	9.2	1.5
1896.....	262.8	419.5	184.9	206.2	7.4	1.5
1897.....	505.5	342.8	222.2	197.6	13.0	1.4
1898.....	269.6	330.5	184.0	185.7	5.0	1.4
1899.....	823.9	294.7	178.2	173.8	9.3	1.2
1900.....	323.8	349.7	159.3	159.3	7.2	1.3

Now it is essential to note that these statistics do not maintain that during the last ten years (1890-1900) the number of union strikes is decreasing. They still increase in number, and it is they that cause the increase in the total number of strikes. The point is that the increase is not as rapid as during the first ten years and not nearly as rapid as the increase in the number

of establishments and employees involved in these strikes. The charts do not show a check in the number of union strikes as compared with what would be the case if there were only non-union strikes; they merely compare the early stages of unionism with the later stage and show that with the later stage an element of restraint relative to the simple number of strikes is introduced.

What, then, is the effect of tradeunionism upon the increase of strikes? To speculate what would be the state of affairs if there were no unions is idle conjecture. The union must be accepted as a permanent and fixed institution, essential to complex industry because of many inherent difficulties and among them the necessity of striking. It is, therefore, infinitely more important to determine exactly what occurs under a regime of unionism than to speculate what would be the number of strikes if there were no unions. The answer to the contention, according to the charts is twofold:—The immediate effect of unionism is to increase the number of strikes very rapidly,—then with increased experience the effect is to inaugurate a policy of greatly increasing the size of the strikes side by side with a less rapid but yet permanent increase in the simple number of strikes. The ultimate effect, as unionism becomes better organized, is to check the number of strikes but to give them a more widespread effect and increased importance. There is no unqualified answer to the contention as to the effect of unionism upon the number of strikes, as there is at once an element of restraint and one of aggression.¹ There can, however, be little doubt that the element of restraint is introduced primarily to make the element of aggression the more effective against the employer. In the aggregate the increasing wide spread effect, introduced by the union, cannot be more vital to the country than the element of restraint.² The element of restraint con-

¹To still further show that, on the basis of the number of employees, the union increases strikes as it becomes older, it is well to recall Chart VIII. It shows that the great majority, out of the fifteen trades considered, indicate that the per cent. of employees on strike each year is generally increasing. These trades were chosen because they are the most highly and longest organized. The fact that the Chart is limited to only those states in which these trades are most highly and longest organized still further decreases the error in the Chart. The per cent. of the total number of employees in these trades is generally increasing. If it be true that old unions decrease strikes in every respect, this would not be the case.

²It was shown previously that the number of employees and establishments affected by strikes is in the aggregate a better standard to judge an increase or decrease by than the simple number of strikes.

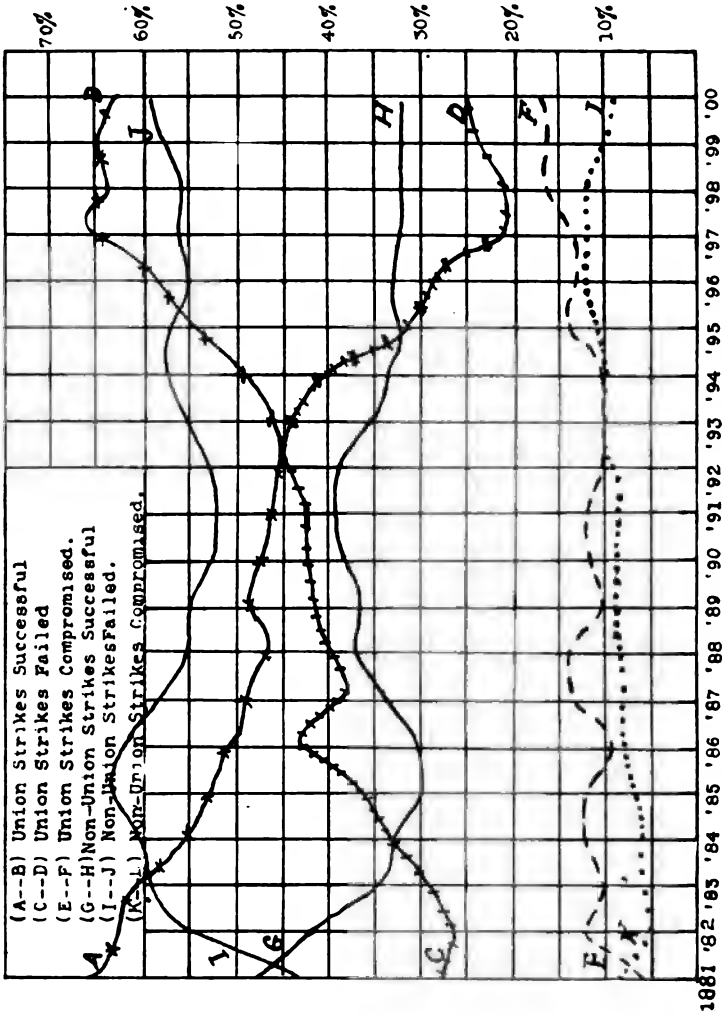
sists merely of making the increase less rapid than when the union is newly organized. On the other hand, the number of employees and establishments involved in these strikes increases with the age and experience of the union. Both parties to the contention are partly right in their position, as the effect of unionism is both to increase and to decrease strikes but, in the aggregate, it seems that the element of decrease is much subordinate to the element of increase. On the basis of the number of strikes, unionism introduced a check; on the basis of the number of establishments and employees affected by strikes, it introduces an element of aggression.

It is frankly admitted that these statistics do not furnish an unqualified demonstration, as new unions are constantly arising to-day. But the basis upon which they rest is fairly certain; first, because unions are *generally* older and more experienced to-day than twenty years ago; and second because unionism as a system is becoming older each year. Even admitting that the fallacy in the statistics is very large, it must be but a poor excuse to constantly attempt to shield the increase of strikes with a promise to change at some far off future time. Twenty years ago trade unionism claimed that strikes would decrease as trade unionism became older. The same claim is made to-day,—and yet there has been an increase in almost every phase of the strike throughout the entire period of statistics. If unionism wishes to decrease strikes, it must do something tangible in that direction. It cannot expect the community to rest upon unproved promises of future possibilities.

Another important effect of trade unionism upon the strike consists of its effect upon the "cause" of the strike. As was previously shown,¹ the per cent of strikes directly connected with wages and hours of labor is generally decreasing and the per cent concerning less standard matters is increasing. This shifting is an effect of trade unionism. The very nature of the majority of those causes which are increasing in importance points to the presence of unionism. The "closed-shop" as a cause, union rules, recognition of union, etc., all show the effect of the union.

¹Chapter III.

Chart XII.
Success Of Union And Non-Union Strikes



This is further illustrated by the statistics of "causes" according to industries. The Industrial Commission indicates a series of highly organized trades as compared with a series of weakly organized trades.¹ Table XXII presents the per cent of strikes in these trades due to wages and the closed shop. Almost universally on the side of wages, the per cents are much higher for the weakly organized trades; while on the side of the closed shop the per cent is very generally the higher for the strongly organized trades.

The chief significance of this effect of tradeunionism has previously been explained.² In addition to that, it is to be noted that it introduces an element which could not appear in non-union strikes and that it augments the above shown effect of unionism upon the increase of strikes. Unionism increases the wide-spread effect of strikes; at the same time it connects that increase less and less with wages and hours and more and more with questions directly related to unionism itself.

Another effect of tradeunionism concerns the success and failure of strikes. Chart XII, in the form of "smoothed" curves³ indicates the per cent of success and failure of union and non-

TABLE XXII. — *Strongly organized trades.*

	Wages.	Closed shop.
	Per cent.	Per cent.
Glass trade.....	50.9	2.6
Tobacco trade.....	53.3	.9
Ship building.....	50.7	5.5
Stone cutting.....	41.6	9.3
Brewing trade.....	32.2	2.8
Building trades.....	42.7	5.5
Printing trades.....	45.1	6.7

Weakly organized trades.

Coal and coke.....	72.9	.3
Carpentering.....	90.2	.8
Cotton goods.....	68.4	1.0
Brick industry.....	42.1	1.6
Rubber.....	50.8	0.3
Woolens.....	71.8	5.3
Boots and shoes.....	66.1	0.0
Paper.....	80.0	

16th Annual Report U. S. Dept. of Labor.

¹ U. S. Industrial Commission, Vol. 17, p. 640.

² Chap. III.

³ Five year average.

union strikes. In the aggregate the majority of union strikes are successful while the majority of non-union strikes are failures. This difference between the success and failure of union and non-union strikes is great enough to overcome the difference in the nature of organized and unorganized employment and indicates the need of having tradeunionism to carry on a successful strike. Of equal importance, however, is the question as to whether this effect of tradeunionism is becoming greater or less. The curves show that for both union and non-union strikes there is, in the aggregate, no definite change in the per cent of success and failure from year to year, and that for both, the per cent of compromised strikes is increasing. In spite of the increasing improvement in the organization of the union, the per cent of success of union strikes is not increasing. Why is this? There is undoubtedly some connection between this and the above effect of unionism upon the "cause" of the strikes. As was previously shown, strikes concerning matters of tradeunionism are generally less successful than those concerning wages and hours. The comparative increase of the former class of strikes may therefore account for this fact that union strikes are not becoming more successful. If that is true, tradeunionism is placing a check upon the success of its strikes by the effect which it has upon the "causes" of strikes. (Figures are in Table XXIII.)

It would seem probable that foreign statistics are valuable here in as much as they would show the success in countries where tradeunions are numerous as compared with countries in which they are few in number. But such is not the case. There seems to be no logical connection between the extent of unionism in the various countries and the per cent of success of the strikes. Too many local differences exist to attempt to show the influence of unionism upon the success of strikes by comparing the statistics of different countries.¹

¹Foreign figures on success and failure, see accompanying tables on p. 134.

TABLE XXIII.—*Success of union and non-union strikes.*

Year.	Per cent. of Establishments in Strikes Not Ordered by Unions.			Per cent. of Establishments in Strikes Ordered by Unions.		
	Successful	Failed.	Compromised.	Successful.	Failed.	Compromised.
1881.....	48	48.2	9	66	28	6
1882.....	40	55	5	62	26	12
1883.....	35	59	6	61	29	10
1884.....	34	60.1	6	55	33	12
1885.....	30	63	7	53	35	12
1886.....	30	62	8	51.4	43.1	9.2
1887.....	34	58	8	49	38	13
1888.....	37	55	8	47	40	13
1889.....	36	55	9	49	41	10
1890.....	38	53	9	47	42	11
1891.....	39	52	9	46	42	12
1892.....	38	53	9	45	45	10
1893.....	35	55	10	46	44	10
1894.....	34	56	10	50	40	10
1895.....	32	57	11	55	31	14
1896.....	33	55	12	58	29	13
1897.....	32	56	12	66	21	13
1898.....	32	56	12	63	21	16
1899.....	32	58	10	60	24	16
1900.....	32	59	9	58	25	17

16th Annual Report of U. S. Dept. of Labor.

Another effect of tradeunionism upon the strike is to increase its duration.¹ The available statistics are not so tabulated as to show this effect, as they do not specify between union and non-union strikes. Even though these figures do not indicate an increase in the average duration, it is self-evident that the union strike is generally of much longer duration than the non-union strike. Even during the early history of American strikes those of long duration were usually under union direction. Common observation shows that strikes of to-day lasting

¹ Average duration (days).

Year.	Average.	Year.	Average.
1881.....	12.8	1892.....	23.4
1882.....	21.9	1893.....	20.6
1883.....	20.6	1894.....	32.4
1884.....	30.5	1895.....	20.5
1885.....	30.1	1896.....	22.0
1886.....	23.4	1897.....	27.4
1887.....	20.9	1898.....	22.5
1888.....	20.3	1899.....	15.2
1889.....	26.2	1900.....	23.1
1890.....	24.2		
1891.....	34.9	Total.....	23.8

for weeks and months are almost uniformly union strikes. In fact the fragmentary statistics given in the Reports of the Sec-

Results of foreign strikes.¹¹

Year.	Great Britain.			France.		
	Successful.	Failed.	Compromised.	Successful.	Failed.	Compromised.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1879						
1880						
1881						
1882						
1883						
1884						
1885						
1886						
1887						
1888	1					
1889	29.0	12.5	55.1			
1890	54.4	25.9	16.9	11.4	64.7	23.8 ¹⁰
1891	25.5	34.7	36.7	20.6	29.5	49.8
1892	20.6	29.9	47.8	20.4	20.7	49.8
1893	64.3*	26.5*	9.2*	21.3	52.4	26.4
1894	21.0*	59.1*	18.9*	23.6	30.	45.4
1895	23.6*	29.8*	45.7*	18.7	36.2	45.1
1896	43.5*	28.0*	28.3*	23.2	42.5	34.2
1897	24.2*	40.7*	34.0*	28.8	29.4	41.8
1898	26.6*	60.1*	17.1*	12.9	47.4	39.0
1899	26.6*	43.6*	29.1*	11.9	17.5	70.6
1900	30.0*	24.7*	41.7*	10.8	26.1	62.9*
1901	27.4*	33.8*	36.7*	8.4	50.3	39.8*
1902	31.6*	30.4*	35.6*	11.0	13.3	72.5*
1903	30.9*	47.3*	20.7**	10.1	16.9	72.8*

Year.	Italy.			Germany.			Austria.		
	Succ'f'l.	Failed.	Comp'd.	Succ'f'l.	Failed.	Comp'e.	Succ'f'l.	Failed.	Comp'd.
	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
1879									
1880									
1881									
1882									
1883									
1884									
1885	25.0	28.0	47.0						
1886									
1887									
1888									
1889									
1890									
1891									
1892	29.0	52.0	19.0						
1893	29.0	27.0	44.0						
1894	19.0	57.0	24.0				9.1	53.5	37.3
1895	35.0	27.0	40.0				12.8	26.5	60.7
1896	49.0	20.0	31.0				4.6	32.6	62.8
1897	23.0	32.0	45.0				15.7	36.5	47.8
1898	27.0	42.0	31.0				8.4	25.2	66.5
1899	33.0	29.0	38.0 ⁷	26.0	41.0	33.0 ¹⁰	10.2	17.8	72.0
1900	43.0	26.0	37.0 ⁷	19.0	46.0	35.0	4.6	9.8	85.0 ¹³
1901	36.0	24.0	50.0 ⁸	19.0	54.0	27.0	20.1	32.0	47.8 ¹⁴
1902				22.0	56.0	22.0	13.7	33.5	52.6 ¹⁵
1903				22.0	46.0	32.0			

retary of the American Federation of Labor are generally higher than the average duration for the total number of strikes, thus substantiating the statement that tradeunionism increases the duration of strikes.¹

Finally, the union tends to "commercialize" the strike;² i. e., it tends to make the strike more of a business proposition. The statistics previously presented to show the effect of unionism upon the increase of strikes point in this direction. They indicate that there was a tendency on the part of the unions to in-

Results of foreign strikes (continued from page 134).

Year.	Belgium.			Holland.			Canada. ¹⁰		
	Succ'f'l.	Failed.	Comp'd.	Succ'f'l.	Failed.	Comp'd.	Succ'f'l.	Failed.	Comp'd.
	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
1879.									
1880.									
1881.									
1882.									
1883.									
1884.									
1885.									
1886.									
1887.									
1888.									
1889.									
1890.									
1891.									
1892.									
1893.									
1894.									
1895.									
1896.	6.8	85.8 ¹¹	5.9						
1897.	5.4	78.8	12.2						
1898.	18.1	73.1	8.1						
1899.	8.7	89.4	1.7						
1900.	16.8	62.9	15.3	33.8	28.6	14.7	37.8	33.8	21.3
1901.				39.2	30.3	22.6	36.8	28.	26.4
1902.				24.7	40.1	29.4	28.1	28.7	28.7
1903.							23.3	33.0	27.1.04

*Strikes and lockouts.

¹Not including the indefinitely settled strikes.

²N. Y. Bul. Labor, 22:326.

³16th Annual Report U. S. Dept. of Labor.

⁴U. S. Labor Bul., Vol. 8, p. 1088.

⁵Id., Vol. 55, p. 660.

⁶Canada Labor Gazette, Dec., 1904.

⁷U. S. Ind. Com., Vol. 17, p. 688, for years 1789-1898.

⁸U. S. Labor Bul., Vol. 8, p. 376.

⁹Id., Vol. 56, p. 286.

¹⁰On basis of the number of strikes. Figures from "Strikes and Ausparrum-gen." 1879-1902, and from U. S. Labor Bul., Vol. 56, p. 275, for 1903.

¹¹U. S. Ind. Com., Vol. 17, p. 686.

¹²16th Annual Rept. U. S. Labor Com.

¹³U. S. Bul., Vol. 8, p. 376.

¹⁴Id., Vol. 56, p. 263.

¹⁵Id., Vol. 56.

¹⁶Id., p. 294, not including those indefinite or unknown.

¹⁷On basis of number of strikes. From Canada Labor Gazette, Jan., 1905. Not including those indefinitely settled or unknown.

¹⁸Reports of American Federation of Labor, 1896 to 1903.

¹⁹Adams: Labor Problems.

crease strikes in the aggregate, but that the increase was marked by a checking of the simple number of strikes, side by side with a much greater increase of the number of employees and establishments involved in the strikes. Do not strike wildly, but regulate the strike so as to make success more probable; wait until the strike can assume some proportion; the widespread effect of nine large strikes is more likely to bring success than the effect of ten smaller strikes.¹

This regulation appears not only in the increase of strikes. As the union becomes experienced, the element of time receives more consideration than it does at the hands of either newly organized men or non-union men. Those periods and seasons are selected in which the employer can least afford to withstand a strike. The maxim becomes to strike when the strike causes the greatest loss and inconvenience to the employer. The trade union recognizes that a careful selection of time increases the probability of success.

Again, the element of union regulation appears in connection with strike methods. Undoubtedly violence abounds in the modern strike,² and many times "slugging crews" and "wrecking crews" are organized by unions. Yet the increase both in number and size of the strike must be noted. The greatest wonder is that there is not more violence than there is. Strikes appeared every year during the last five years, in which thousands of men were idle for weeks at a time, with the hope of success often yielding before the coming failure, and yet violence among these men was not much more prevalent than during normal conditions of industry.³ This cannot but indicate regulation. Violence is prevalent, but if there was no regulation it would probably be more so. This is the natural complement of the regulation of the increase of the strike. The two movements manifest that the union tends to "commercialize" the strike so as to have it depend more and more upon the economic necessity of the employer rather than upon violence.

There is still other evidence of "commercialization." The

¹This, again, is not a comparison of union with non-union conditions but of the old vs. the new union.

²Outlook, 78: 969 (S. Thompson), Thoughts of Employers' Associations, etc.

³Outlook, Vol. 78, 972 (Povitt); Commons: Chicago Stock Yards Strike, etc., etc.

increasing use of strike funds and the growing agitation in favor of them¹ point toward the growth of business methods. The movement toward National Control² over the strike of the local points in the same direction. Again, the growth of "industrial unionism"³ is as evidence of the attempt to make the strike reach the economic necessity of the employer. The rapid extension of unionism toward the unskilled laborer, also, leads to larger strikes and strikes which on the one hand require increased regulation to make them succeed and on the other hand make it more easily possible for the strikers to depend upon business regulation rather than violence.⁴ Finally, many unions have constitutional provisions and by-laws directly regulating the initiation of strikes.⁵

¹Mitchell: Organized Labor, etc.

²Adams: Labor Problems; Industrial Commission, Vol. 17.

³English Walling: An. Am. Acad., Sept., '04.

⁴That is, the skilled men strike with the unskilled, the one kind of labor aiding the other so as to make it the more difficult for the employer to secure new employees.

⁵U. S. Industrial Commission, Vol. 17; Separate Constitutions of various unions.

CHAPTER V.

CONCLUSION.

The central purpose of this monograph is to indicate statistically the course of movement or evolution of the strike. It may be maintained that it is of far greater importance to determine whether the strike is inherently a bad or a good institution. Yet it is essential to note that, until some other institution is introduced, the strike, whether inherently good or bad, is absolutely necessary to protect the interests of the workman. No such an institution, however, has as yet been contrived. The most vital problem connected with the strike, therefore, does not pertain to its inherent qualities, but to the particular way in which it is developing. Until some substitute for the strike is found, the primary consideration must be, not whether it is inherently dangerous, but whether it is being dangerously used; i. e., whether the way in which it is moving is or is not dangerous.

With this in mind, the strike statistics are tabulated so as to indicate a growth or movement as distinguished from a stationary condition. It is intended to indicate exactly what the development is and to let the reader interpret its meaning. Statistically to determine the actual movement is one part of the problem; to determine whether that movement is good or bad is another.

In the first place, the statistics demonstrate that strikes in the United States are increasing. The *absolute increase* is very rapid. The number of strikes, number of establishments affected by strikes, number of employees affected by strikes, number of strikers and the amount of wage loss due to strikes, are all increasing. The *relative increase* is slow but yet steady. The statistics in the case of relative increase are admittedly in-

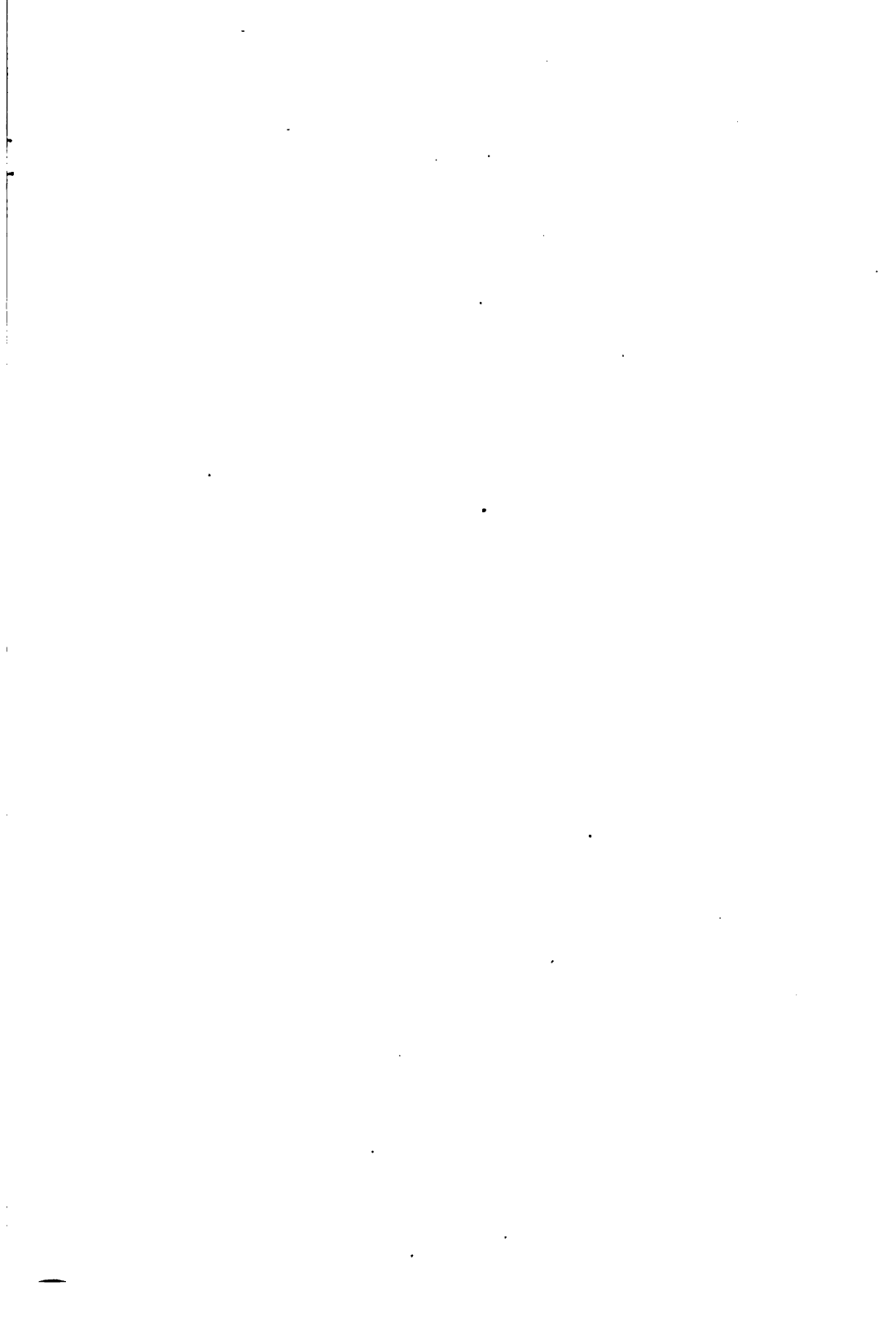
accurate, but to overcome this inaccuracy many different sets of statistics were computed. Whatever statistics were employed in the computation, the result in each case was a slow increase of strikes relative to the growth of American industry.

American statistics were supplemented by statistics of European strikes. These supplementary statistics show that the strike movement either is assuming or has already assumed large proportions in practically every important industrial country of Europe, and that with the exception of England strikes are increasing in every country which was investigated.

In the second place, the statistics show what the increase of strikes really consists of; i. e., the strikes are arranged according to the purpose at which they aim. It is found that in the United States certain causes are increasing and others are decreasing in importance. The purpose of the strike is being changed; there is a shifting from one set of causes to another. The movement is away from those causes which are generally designated as standard causes and in the direction of causes which are at least more questionable. The statement that wages and hours are the cause of nearly three-fourths of all the strikes in the United States is emphatically denied by the statistics. Wages and hours are still the most important causes but their relative position is rapidly decreasing, and the per cent of strikes in the United States due to other than purely standard causes is rapidly increasing.

In the third place, the statistics indicate how the strike is being influenced by tradeunionism; i. e., how the character of the strike is changing. On the basis of the number of strikes the effect is to check the increase as tradeunionism becomes older and more experienced; on the basis of the number of employees and establishments affected by strikes the effect is to accelerate the increase. The character of the strike is being changed by the union so that it is becoming of increasing widespread importance to both parties and to the community at large. Again, tradeunionism makes the strike a more formidable weapon as is shown by the much greater success of union strikes as compared with non-union strikes. At the same time it is important to note that union strikes are not becoming more

successful even though unionism is being more and more thoroughly organized. Again, the union strike is generally of greater duration than the non-union strike. Furthermore, trade-unionism affects the causes of strikes by reducing the importance of the purely standard causes and increasing the importance of "tradeunionism" as a cause of strikes. Finally, trade-unionism tends to "commercialize" the strike. This means on the one hand, a still further extension of its affect upon the industrial community, and on the other hand, greater and more skillful control of every phase of the strike by organized labor.



PART III.

LIQUOR TRAFFIC IN WISCONSIN.

Inquiry Pursuant to Chapter 418, Laws 1903.



THE LIQUOR TRAFFIC IN THE UNITED STATES.

INTRODUCTION.

The use of alcoholic liquors is quite generally recognized to be detrimental to the best interests of society. Notwithstanding the prevalence of this belief surprisingly little has been done toward gathering a body of definite information concerning the magnitude of the interests involved in the manufacture and retail of liquors, the effects of their use on the public and the relative merits of the various plans looking toward the discontinuance of such use. The starting point of effective regulation must be based upon an accurate, scientific, knowledge of the conditions that create and maintain the traffic in liquors; yet the only important investigation so far made with a view to the attainment of such knowledge is the inquiry conducted by the Federal Department of Labor, the results of which are given in the Twelfth Annual Report of the Commissioner of Labor, 1897-1898, "Economic Aspects of the Liquor Problem;" the study prosecuted by the Economic Sub-Committee of the Committee of Fifty, an account of which is published in a volume bearing the same title as the Federal report; and the investigation made by the Massachusetts Bureau of Labor reported in its Twenty-sixth Annual Report, "The Relation of the Liquor Traffic to Pauperism, Crime and Insanity."

The effort here made is to combine in a brief space the facts brought to light by these investigations together with such observations as they seem to warrant. Original treatment of the general aspects of the liquor problem in the United States has

not been aimed at. The tables given have been arranged in the same form as those in the Federal report. For the most part they have been brought down to date by reference to the Twelfth Census Report, The Annual Statistical Abstracts of the Treasury Department and the Reports of the Commissioner of Internal Revenue; the remainder have been transferred directly from Federal Labor Report as no more recent data was available. The summaries on the effect of the liquor traffic were for the most part taken verbatim from the Massachusetts report and the Report of the Committee of Fifty. While no addition has been made to the sum of human knowledge, still the facts submitted constitute the most recent available information on the relations of the liquor traffic to society in the United States and it is hoped that their presentation in this form will not be without value to the student of the liquor problem.

The discussion of the subject falls naturally under three heads; the strength of the liquor traffic, the magnitude of the interests involved in the manufacturing and retailing of liquors, roughly the force working for the continuation of the traffic; the effects of the traffic, the impairment of social, physical and industrial vigor resulting from the use of intoxicants; finally the outlook for reform, the scope and success of the efforts to counteract or do away with the traffic. Fairly adequate data exist for the study of the first subdivision only. The investigations under the second head have been too restricted both in the area covered and in point of time over which they were extended to furnish a very satisfactory basis for deduction while comparatively little has been done toward the scientific study of the merits of the various plans offered as a solution of the liquor problem.

CHAPTER I.

THE MAGNITUDE OF THE LIQUOR TRAFFIC.

SECTION 1. INTRODUCTORY.

The proper scope of an investigation under this head is set forth in the introduction to the Federal Labor Report from which the material for this chapter has for the most part been drawn.

"A report on the economic aspects of the liquor problem to cover the various phases of the subject should consider monetary conditions; the agricultural and other products used in the production of liquors; the manufacture of liquors as a distinct industry; the transportation of liquors from the place of production to that of consumption; the consumption of and the traffic in liquors; the revenue derived from the manufacture and traffic; the laws regulating the collection of revenue; and the experience and practice of employers in relation to the use of intoxicants.

"The agricultural products used in the manufacture of liquors form as a rule, a very small proportion of the total of such products, and it is therefore not possible to ascertain the capital, the number of employes, etc., represented by such portion. The transportation of liquors forms a very small proportion of the land and water transportation business of the whole country, and it is impossible to estimate the capital and number of employes represented by it. Of the remaining subjects enumerated above, reliable and fairly complete data in regard to the production of liquors were found in the reports of the Commissioner of Internal Revenue and the publications of the census office. To obtain information in regard to the traffic in liquors

and the revenue derived from the manufacture and traffic, as well as the experience and practice of employers in relation to the use of intoxicants original inquiry was necessary."

It should be added that all discussion of the laws relating to the collection of revenue has been omitted while the material on the experience and practice of employers in relation to the use of intoxicants is taken up under another head. As before stated, the facts here presented are arranged in the same form as in the federal report, along the lines suggested in the above quotation. The aim has been to bring that report down to date so far as possible and at the same time to eliminate various minor tables which are not deemed important. Wherever possible the tables have been compiled from the original reports, the census figures being for 1900 instead of 1890 and those from the Internal Revenue reports for 1903 instead of 1896.

SECTION 2. THE PRODUCTION OF LIQUORS.

Table I shows the number of breweries and distilleries in operation in the United States and the quantity of production, also an estimate of the quantity of domestic wines produced during each fiscal year from 1880 to 1903 inclusive. The table is compiled from the reports of the Commissioner of Internal Revenue and from the Statistical Abstract of the Treasury Department and while not absolutely correct in every detail, it shows in an entirely satisfactory way the trend of the production in the various industries.

It appears that the output of fermented liquors has been steadily increased from 13,347,111 barrels in 1880 to 46,720,179 barrels in 1903, the highest point yet reached in their production. There were but two years, 1894 and 1899, in which the output was less than in the year preceding. The production of fermented liquors has more than tripled since 1880. Significantly enough the production of both distilled spirits and of wines was larger in 1902 than it had ever been in the history of the country. It cannot therefore be truthfully said that the production of fermented liquors is driving out the other industries. Indeed as the Federal Labor re-

port says: "There is no apparent relation between the two." The production of distilled spirits was 91,378,417 gallons in 1880, this increased to 119,528,011 gallons the next year; then again came a period of decreased production which continued until 1890 when 111,101,738 gallons were produced. The rise continued until 1893 when it culminated with an output of 131,010,330 gallons. In the decline which followed, the lowest point of production for the entire period was reached, 64,279,075 gallons in 1897. Since then there has been a marked increase. The highest point the production has yet reached was attained in 1903, with an output of 148,206,875 gallons. From these figures the only generalization safely to be made is that the distilled liquor industry is subject to alternate periods of high and low production. The general tendency however is upward but that tendency is by no means as marked as the course of production for malt liquors.

The column representing the production of wines exhibits an even greater irregularity. The explanation here readily suggests itself. The amount of wine produced is directly and entirely dependent on the grape crop which is always uncertain. The great bulk of the wines consumed are of American production and the low per capita consumption of wines as compared with the other two kinds of liquors may be thus accounted for.

The course of production of the various kinds of distilled spirits such as bourbon whisky, rye whisky, alcohol, rum, etc., has not been discussed because such discussion would have neither significance nor profit.

Table II taken from the twelfth census shows for the United States the number of establishments, the capital, number of salaried officials, wage earners and total wages paid, the cost of materials used and the value of the products resulting. It will be noticed at once that according to the reports of the Commissioner of Internal Revenue as shown in Table I there were 3,614 distilleries in operation in 1900 and 1,816 breweries while the census report gives but 967 distilleries and 1,509 breweries. The discrepancy is explained as follows: "A large proportion of the distilleries shown by the internal revenue reports to have been in operation were small establishments engaged in distili-

ing fruit brandies and in operation for only a short time in the fall of the year. The number of distilleries shown by the census reports is the number that was in operation at the time of the enumeration during the month of June and would necessarily not include the fruit distilleries referred to. This condition may also account in part for the discrepancy in the number of breweries shown by the reports of the two offices, as the number given on the internal revenue reports is the number paying the internal revenue tax, irrespective of the length of time they were in operation during the year, while the number given in the census report is the number the enumerators found in operation. The discrepancy is also accounted for in part by the fact that when two or more distilleries or breweries were owned by the same corporation, firm or individual, and located in the same county or city, they were counted as one establishment in the census reports. In the internal revenue reports the actual number of distilleries in operation and the number of internal revenue stamps issued to breweries are shown. Then in all probability the census enumerators neglected to report some establishments that should have been reported."

The tables should therefore be accepted with the above cautions. There is no reason to doubt, however, the substantial accuracy of the figures presented and the conclusions drawn from them may safely be relied upon, as the output of the omitted establishments is in most cases relatively small.

From the table it appears that the total amount invested in the production of alcoholic liquors, represented by 2,385 establishments reporting, was \$457,674,087; the cost of materials used was \$70,512,042; the wages paid to the 52,575 employes amounted to \$42,307,128 and the total value of the products was \$340,615,466. Table III presents a comparison with the two preceding census years, 1880 and 1890. The table seems to warrant the conclusion that there is no relation between the number of establishments and the output or perhaps more accurately that the census figures as to the number of establishments are without significance. It appears from the table that there has been a decided increase in the amount of capital invested, the number of men employed, the wages paid and the

value of the product; at the same time there has been a marked decline in the cost of the materials used. There is no reason to think that this is entirely due to a general decline in the price of the materials used nor to an increased efficiency in the methods of production. The explanation is more probably due to the fact that much of what might properly be given under the heading "cost of materials" appears under a heading omitted from the comparison, namely, "miscellaneous expenses."

To take up the classes of liquors separately, Table II shows that there were 1,509 establishments engaged in the production of malt liquors with a capital of \$415,284,468; that they employed 7,153 salaried officials and clerks receiving for their services \$13,046,540, and 39,532 wage earners who were paid \$25,826,211. The miscellaneous expenses were \$109,329,231; the materials used cost \$51,674,928 and the product was valued at \$237,269,713.

Nine hundred sixty-seven establishments were engaged in producing distilled liquors. Their capital was \$32,551,604. In their employ were 661 salaried officials to whom was paid \$889,606 and 3,722 wage earners who received \$1,733,218. The miscellaneous expenses aggregated \$73,218,227. The materials used cost \$15,147,784 and the value of the product was \$96,798,443.

There were but 359 establishments reported as manufacturing vinous liquors; their capital was \$9,838,015. In their employ were 661 salaried officials to whom were paid \$365,498. The wage earners numbering 1,163 received \$446,055. Miscellaneous expenses amounted to \$552,338; the cost of materials was \$3,689,330 and the product was valued at \$6,547,310. The cost of materials approximates the value of the output much more closely in the case of vinous liquors than in malt or distilled liquors.

Table IV is a presentation of statistics relative to the manufacture of malt. This industry is one which depends for its existence almost entirely on the fermented liquor industry; for this reason an adequate presentation of the scope and influence of the liquor industry involves the statistics for malt as well. The table shows that since 1880 there has been a marked ten-

dency toward concentration in this as well as in other industries. The number of establishments declined from 216 in 1880 to 146 in 1900. The decline may be ascribed in part, however, to the fact that many of the larger breweries have undertaken the manufacture of malt for themselves. We find that the amount of capital invested has almost tripled in the two decades since 1880. Every other element in the presentation, however, underwent a rise from 1880 to 1890, followed by a decline in the latter decade. The number of employes increased from 2,332 in 1880 to 3,694 in 1890 and then fell to 2,280 in 1900. The wages paid began at \$1,004,548 in 1880, increased to \$2,103,200 in 1890, then declined to \$1,653,829 in 1900. The cost of materials was \$14,321,423 in 1880; \$17,100,074 in 1890 and \$14,816,741 in 1900. The value of the product for the different years was as follows: \$18,273,102 in 1880; \$23,442,559 in 1890 and \$19,373,600 in 1900.

A consideration of the materials used in the manufacture of alcoholic liquors is of importance in this connection. Table V is a presentation of these facts for distilled spirits. The amounts of malt, wheat, barley, rye, corn, oats, etc., used in its manufacture are given. It is seen here that the amounts of malt, rye and corn are the largest used in the history of the industry. Wheat, barley as such, oats and mill-feed are used in varying but on the whole, steadily decreasing amounts. The most significant fact in the table is the enormous increase of molasses as an element in the production of distilled spirits. In 1880 the amount of molasses used was 2,710,307 gallons; in 1903 over five times that amount or 15,544,360 gallons. The total amount of grain consumed was 24,006,359 bushels in 1880 and 30,296,549 bushels in 1903. In 1881, however, at the very beginning of the period the amount was 31,291,175 bushels, the largest amount used during any single year of the twenty-three.

Table VI embodies a presentation of the facts for the malt liquor industry derived from the census of 1900. It appears that in that year 36,385,365 bushels of malt were consumed; 11,232,599 bushels of barley, 483,998,984 pounds of corn and 37,465,811 pounds of hops.

Attention is called in this connection to the fact that the hop industry is fostered almost exclusively by the production of malt liquors. According to the report of the twelfth census the hop crop for 1899 amounted to 49,209,704 pounds of which 37,465,811 pounds were used in the manufacture of malt liquors.

To ascertain the relation of the total crop output of the country to the amount used in the liquor industry it is necessary to change the malt into its equivalent in barley. According to the labor report based on the records of the internal revenue department which are inaccessible for the purposes of this discussion, the total amount of barley used in the manufacture of alcoholic liquors in 1896 was 32,436,471 bushels.

In that year the production of beer was but 35,859,250 barrels as compared with 46,720,179 in 1903. Assuming a proportionate increase in the amount of barley used, 40,000,000 bushels would seem to be a safe approximation of the amount used in the production of alcoholic liquors. The census estimate for 1900 is that 483,998,984 pounds of cerealine were used in the manufacture of malt liquors. Changing this into bushels, 56 pounds to the bushel, we have 8,642,839 bushels. When it is remembered that the output of beer increased from 36,697,157 to 46,720,179 barrels in 1900 it is but fair to assume a like increase in the amount of corn used. Ten million bushels seem a conservative estimate of what is used in the production of malt liquors. Adding this to the 20,597,594 used in manufacturing distilled liquors we have 30,597,594 as the total number of bushels of corn consumed. The rye used in the production of alcoholic liquors is put at 5,873,226.

The total crop of each of these products according to the crop register published by the department of agriculture is as follows: corn 2,244,176,925 bushels; barley 131,861,391 bushels; rye 29,363,416 bushels. Approximately one per cent of the total corn crop, about one-third of the barley crop and something like one-fifth of the rye crop were used in the manufacture of alcoholic liquors.

The liquor industry ranks seventh among the great industries of the country in the value of its product. Classified as

to the amount of capital invested but four industries, the iron and steel, gas, lumber and cotton manufactures, respectively, have a greater amount invested than the liquor industry.

SECTION 3. THE CONSUMPTION OF LIQUORS.

Table VII compiled from the Statistical Abstract shows the total and per capita consumption of the great classes of liquors, wines, malt or fermented liquors and distilled spirits. It appears that in 1902, 49,754,403 gallons of wine were consumed, 1,381,875,437 gallons of malt liquors and 107,452,151 gallons of distilled spirits; a total of all kinds of spirits and liquors of 1,539,081,991 gallons.

Having regard to the per capita consumption we are led to conclusions directly opposite to those of the federal labor report in 1897. It was there stated that there had been a marked decline in the per capita consumption of both distilled spirits and wines. The very next year after that report was made we find that the per capita consumption of wine more than doubled (as did the crop); rising from .26 to .53 gallons while in 1902 it was .63 gallons per capita, the highest point it has reached in the history of the nation. It should be added that in 1903 it fell to .49 gallons. The increase in the per capita consumption of malt liquors has been decided and almost unbroken. It began at 1.36 gallons in 1840 and reached its highest point at 18.04 gallons in 1903. Distilled spirits whose per capita consumption was 2.52 gallons in 1840 stood at 1.46 in 1903, the highest it had been since 1893.

In connection with the Eleventh Census an investigation was made to ascertain the quantity of distilled spirits consumed in the arts, manufactures and medicine, and it was found that 10,976,842 gallons were thus consumed. No similar investigation was made in 1900, but it is reasonable to suppose that the amount consumed was at least as great. It is possible, indeed, that the increase in per capita consumption may be explained through a stimulus to the manufactures and arts requiring distilled liquors, or more probable there may have been a great increase in the preparation of patent medicines. In the absence

of statistics on this point it is impossible to draw any conclusions with absolute certainty.

The tendency in the consumption of liquors as a whole gives an increasing predominance to the use of malt liquors, not, however, as is often stated to the exclusion of the others as beverages. The consumption of wine is of course more or less fortuitous, depending on the production of domestic wines each year. The consumption of distilled liquors since 1880 has varied between 1 and 1.50 gallons but shows a tendency to remain in the neighborhood of 1.25. It has been said that while there has been an increase in the per capita consumption of all liquors from 4.17 gallons in 1840 to 19.99 in 1903 the increase has mainly been in the consumption of fermented liquors which contain a much smaller proportion of alcohol, so that the per capita consumption of alcohol is on the decline. This may be doubted. It can safely be said, however, that there has been no marked increase in the amount of alcohol consumed.

A study of the table reveals the fact that the amount of liquor consumed is directly dependent on the general prosperity of the country. In 1893 just before the crisis the consumption of all kinds of liquors stood at what was apparently its highest point. With the crash following, the consumption in all lines underwent a marked decline. Then after a few years the consumption increased again and the present tendency is upward.

Compared with European countries our consumption of liquors is decidedly low. As a beer-drinking country the United States in 1900 ranked but sixth. The order was as follows: Belgium 54.0 gallons per capita; the United Kingdom 38.9 gallons per capita; Germany 33.9; Denmark 24.0; Switzerland 18.0; the United States 16.0. In 1900 France, Germany, Austria, Holland, Belgium and Sweden each consumed two gallons and over of spirits per capita.

SECTION 4. THE TRAFFIC IN LIQUORS.

Chapter IV of the Twelfth Annual Report of the Labor Department is devoted to a discussion of the traffic in liquors. The returns which form the basis of the discussion were ob-

tained as the result of an investigation specially conducted by the department and no like figures are available for any subsequent period. The investigation was confined to a limited sphere and on the basis of the results thus obtained estimates for the whole United States were made. The method of making the estimates is not important and will not be considered and no detailed presentation of the various minor facts will be attempted. Such general conclusions as are thought of interest will be given but it must be borne in mind from the outset that these generalizations are estimated on the basis of facts secured for but a small part of the total number of the establishments engaged in the traffic.

For the year ending June 30, 1896, the capital invested exclusively in the liquor traffic by 161,483 establishments was \$957,162,907. Of this amount \$412,188,729 or 43.06 per cent represented the value of land and buildings, fixtures and other properties owned by the persons or firms carrying on the liquor traffic, and \$544,974,178 or 56.94 per cent the value of the property rented by them. The estimated annual taxes paid on the property were \$10,075,120 and the rent paid on the rented property \$51,265,465. The estimated number of proprietors or firm members engaged in the liquor traffic was 191,519 and the employees 241,755. If the employees had devoted all their time to the liquor traffic, it is estimated that it would have required 172,931 to carry on the business of the 161,483 establishments.

Adding this capitalization to that represented by the manufacture of alcoholic liquors, \$457,674,087, and the amount invested in the closely allied industry, the manufacture of malt, \$39,288,102, we have a total of \$1,454,125,096. Roughly speaking, a billion and a half dollars are employed in the manufacture and sale of alcoholic liquors. The number of proprietors, salaried officials and wage earners is 488,129. In other words the manufacture and sale of liquors directly employ half a million men. This leaves out of consideration entirely those employed in raising the products which go into the manufacture of liquors or those given employment in the transportation of the raw material and the manufactured article. Assuming that

each of these supports a family of four we find that two million people are dependent on the liquor industry for their livelihood. One may venture the assertion that the manufacture and sale of no other single commodity directly affects the lives of so great a number of people.

SECTION 5. TAXATION.

Not only is the liquor industry of tremendous importance viewed in its direct relation to society as one of the great industries of the country but it has a further significance because under our present governmental policy, the government is deriving a large and an increasing proportion of its revenue from this source.

The revenue derived from liquor manufacture and traffic consists of the general tax levied on real and personal property employed in such manufacture and traffic; the United States internal revenue tax; the customs duties on imported liquors; the license fees or special taxes collected under authority of the States, counties and municipalities, and the fines collected for violations of the internal revenue laws and of the laws of the states, counties and municipalities controlling the manufacture and traffic.

Table VIII shows the facts as estimated for 1896 by the department of labor. The total taxes as given in the twelfth annual report were \$183,213,124.51. It will be noted in the table that the United States internal revenue tax has been increased from \$114,450,861.77 to \$179,401,328.47, or \$64,950,456.70. It is safe to argue that there is some, if not a proportionate increase in the other items which go to make up the total. Conservatively estimated, therefore, upwards of \$250,000,000.00 is annually derived from the taxes on the manufacture of and the traffic in alcoholic liquors. The total revenue derived from all sources and for all purposes in the United States aggregates \$1,250,000,000. It may be stated with some degree of confidence therefore that from one-sixth to one-fifth of the money expended for governmental purposes in the United States is drawn from

the liquor business. There is every reason to believe that these figures are below rather than above the actual amounts. This enormous total emphasizes the degree to which the liquor industry has woven itself into the structure of not only our industrial and social, but also our governmental life. Here is a phase of the liquor question which must be taken into account by any proposed change in regulation of this traffic. There is another phase of the subject which will bear emphasis at this point. It has been stated by students of our system of taxation that the amount of revenue derived from the liquor business could be doubled without enhancing the price to the consumer. While this fact was pointed out to show the abundance of our fiscal resources, it must be apparent that the same amount which would be available for revenue purposes would be equally available for political corruption. It requires no great foresight, therefore, to warrant the prediction that in case the permanence of the liquor interest should be seriously threatened by proposed legislation, a powerful opposition would be met with on all sides and that opposition would be abundantly supplied with funds and influence with which to maintain its contention.

CHAPTER II.

THE EFFECTS OF THE LIQUOR TRAFFIC.

Regarded as a unit in the various phases of its manufacture and distribution—in the numberless ways in which it enters into our social, industrial and political life—the liquor industry is among the first in importance. It is of the most vital consequence, therefore, to know accurately the effect of this deep-rooted institution on the society that gives it life. The only serious or extended effort yet made by any state or governmental agency to study it in detail is that undertaken by the Massachusetts Bureau of Labor and reported in the twenty-sixth annual report of that bureau.

The scope and method of the investigation may be best stated in the language of the report: "The collection of information occupied twelve successive months. It was prosecuted through the different state institutions for the reception of paupers and the insane and through the prisons and courts of the commonwealth. All persons committed to these institutions or passing through the courts for criminal offences were directly interviewed by the agents of this department and their testimony taken concerning their habits with respect to the use of intoxicating liquors and as to the habits of their parents, guardians or others who may have exerted a direct influence upon them. The results of the investigation thus rest upon the direct testimony of those immediately concerned, except in the case of the insane who for obvious reasons were incapable of giving direct information themselves. Respecting the insane, therefore, the testimony of others has been taken and no effort has been spared to bring out full and reliable data covering the special

points of inquiry respecting each of the classes referred to. The inquiries were carefully formulated before beginning the investigation and the work carried out by agents of the bureau especially selected for the purpose."

The report covers 3,230 returns as to pauperism, 26,672 as to crime, and 1,836 as to insanity. The evidence condensed in the tables, therefore, rests upon personal interviews with respect to 31,738 cases of pauperism, crime and insanity and comprises the largest amount of direct information, that is to say, information secured by personal interviews with the persons immediately concerned that has ever been obtained.

The conclusions of the report occupying over four hundred pages are summarized as follows: "Out of 3,230 paupers, 2,108 or about 65 in every 100 were addicted to the use of liquor. The excessive drinkers numbered 505, about 16 in every 100. Of the total abstainers 429 were minors; 281 being under 10 years of age. There were also 31 minors addicted to the use of liquor. Excluding all the minors whether total abstainers or not, we have 2,752 paupers of adult years of whom 2,077 or about 75 in every 100 were addicted to the use of liquor, including 504 excessive drinkers and 1,573 drinkers not classed as excessive.

Of the whole number of paupers, nearly 48 in every 100 had one or both parents intemperate. Of the whole number, about 39 in every 100 attributed their pauperism to their own intemperate habits; about 5 in every 100 considered their pauperism due to the intemperance of their parents, one or both; and about 1 in every 100 attributed their pauperism to the intemperance of those upon whom they were dependent, other than parents.

Of the whole number addicted to the use of liquors, namely, 2,108, there were 25, or about 1 in every 100 who used wines only; 417, or about 20 in every 100 who used lager beer or malt liquors only and 1,628, or about 77 in every 100, more than three-fourths of the whole number, who used all kinds or at least two kinds of liquor.

Of the whole number of paupers (without discrimination as to sex) 2,005 or about 62 in every 100, used tobacco. Of the

males no discrimination being made as to ages, nearly 75 in every 100 used tobacco. Only three paupers were found among the whole number who used drugs intemperately.

CRIME.

Out of 26,672 convictions for various offences during twelve consecutive months, 17,575, or about 66 in every 100 were convictions for drunkenness; and 657, or about 2 in every 100 for drunkenness in combination with other offences. Hence 18,232 convictions, or about 68 in every 100 included drunkenness either wholly or in part.

In 21,863 cases, about 82 in every 100, the offender was intoxicated at the time the offence was committed. In 8,440 cases in which drunkenness did not form part of the offence, that is, in which the offender was convicted of a crime other than drunkenness, 3,640, or about 43 in every 100 were cases in which the offender was intoxicated at the time the offence was committed. Of these 8,440 cases, 4,852, or about 57 in every 100, were cases in which the offender was intoxicated at the time the intent was formed to commit the offence.

Out of the whole number of cases, namely 26,672, there were 22,514 in which the intemperate habits of the offender led to a condition which induced the crime. These constitute about 84 in every 100. Disregarding convictions connected with drunkenness there remain 4,294 convictions for other crimes committed under conditions created by the intemperate habits of the criminal. These constitute nearly 51 in every 100 of the total number of convictions for crimes other than drunkenness.

In 16,115 cases about 60 in every 100, the intemperate habits of persons other than the offender were said to have been influential in the commitment of the offence, and 3,611, or about 43 in every 100 of the total convictions for crimes other than drunkenness were of this class.

Of the total number of convictions, namely 26,672, the number of offenders addicted to the use of liquor (no discrimination being made as to sex) was 25,137, or about 94 in every 100.

The excessive drinkers numbered 4,516, about 17 in every 100, and the total abstainers numbered 1,535, about 6 in every 100. Of the total abstainers, however, 632 were minors. There were also 680 minors addicted to the use of liquor. Excluding all the minors, whether total abstainers or not we have 25,630 offenders of which number 24,457, or about 96 in every 100, were addicted to the use of liquor, including 4,482 excessive drinkers and 19,975 drinkers not classed as excessive. Of the whole number of offenders nearly 58 in every 100, had fathers who were addicted to the use of liquor while about 20 in every 100 had mothers addicted to the use of liquor.

Of the whole number of offenders addicted to the use of liquor, namely, 25,137, there were 126 or less than 1 in every 100 who used wines only; 4,923 or about 17 in every 100, who used lager beer or malt liquors only; 728, or about 3 in every 100 who used distilled liquors only; and 19,990, or about 80 in every 100 who used all kinds or at least two kinds of liquor.

There were thirty-five towns which changed their policy with respect to license during the twelve months covered by the investigation. Of these, fourteen show a larger average number of arrests per month under no license than under license, but the number in either case is quite small in these towns. In nineteen of the towns which changed their policy during the year, the average number of arrests for drunkenness was larger and usually considerably larger, under license than under no license. In five small towns there were no arrests for drunkenness under either system. In one town there was one arrest for drunkenness during four months of license and two during eight months of no license.

INSANITY.

Out of 1,836 cases of insanity, this being the total number found in the institutions canvassed during the twelve months, there were found 671 instances or about 37 in every 100 in

which the person was addicted to the use of liquor. The excessive drinkers numbered 311 or about 17 in every 100. The total abstainers numbered 677, or about 37 in every 100. Information as to the drinking habits of 488 or 26.58 per cent. of the whole number could not be ascertained.

As to the direct influence of the use of liquor upon insanity the following facts appear; of the whole number, 1,836, the investigation indicated that in 383 instances about 21 in every 100, the intemperance of the person led to his insanity. There were, however, 330 cases as to which the point could not be ascertained. Of the cases in which this point was fully determined, namely, 1,506, 383, or about 25 in every 100 became insane through their intemperate habits.

The Economic Sub-committee of the Committee of Fifty conducted its investigation with a view of ascertaining among other things: "The relations of the liquor problem to poverty and destitution as evidenced in the work of charity organization societies, almshouses and societies for the care of poor children; and its relations to crime as shown in some of the leading reformatories and state prisons of the country."

The attempt was made to cover a more extended field than was done by the investigation of the Massachusetts bureau of labor, by taking selected institutions distributed over the country. The inquiry as to poverty was divided into two parts; one consisting of queries to charity organization societies and allied bodies, from this source statistics relative to 29,923 cases of distress were obtained; the other branch of the inquiry had reference to the inmates of pauper establishments, almshouses, etc. A total of 8,423 inmates of fifty institutions in ten states is accounted for in the returns. No attempt will be made to offer a detailed presentation of the tabulated data contained in the report of the committee. A summary of the results is all that will be profitable in this connection.

Of the poverty which comes under the view of charity organization societies, about 25% can be traced directly or indirectly to liquor; 18% of the persons studied having brought on their poverty through the personal use of liquor, and 9% attributing it to the intemperance of parents or others. The general per-

centage is less than the sum of the partial percentages, because in some cases liquor acted as both a direct and an indirect cause.

Of the poverty found in almshouses, 37% can be traced to liquor and of this again 32% is due to the personal habits of the inmates, and 8% to the intemperance of others. In the case of the destitution of children, not less than 45% was found to be due to the liquor habits either of parents, guardians or others.

The investigations as to the percentage of crime due to liquor covered 13,402 convicts in seventeen prisons and reformatories scattered throughout twelve states. Of the total number of cases thus investigated, it appeared that intemperance figured as one of the causes of crime in nearly 50%. It was, however, a first cause in only 31%. While, therefore, intemperance appears to contribute to crime in nearly half the cases investigated, a result strikingly confirmed by the Massachusetts Bureau of Labor Statistics for that state, it was almost always one only of several causes and appeared as a leading cause in less than a third, and as the sole cause in but 16%. The difference between the importance of liquor as a cause of crimes against property and of crimes against the person is surprisingly small. 51½% of the crimes against the person are attributed to liquor; in the case of crimes against property, the percentage is 49½%.

CHAPTER III.

A FEW FACTS BEARING ON THE QUESTION OF
FURTHER REGULATION OR RESTRICTION.

No effort is made here to give the important subject of the regulation of liquor traffic adequate treatment. A few quotations are given which it is believed will be found to suggest some of the difficulties to be expected in dealing with the problem and which point out some mistakes to be avoided.

"The evils of excessive drinking are well recognized, and yet the saloon seems to flourish in spite of these evils. The reports which have been made from several large cities, especially Chicago, New York, Boston, and San Francisco, concur in showing that the saloon though supplying the means of intemperance is not exclusively devoted to this purpose. Its character differs naturally with the locality in which it is situated, and with the nationality and occupation of its patrons, but it generally attracts custom by ministering to the social wants of the poor man. Here he finds companionship, recreation, literature, even kindness and help in trouble.

"The fact that the saloon is more than a mere drinking place and that it supplies many legitimate wants besides the craving for intoxicants should be frankly recognized and ought to be of help to those who are engaged in practical efforts to counteract the evils of intemperance."

"The large interests represented by the capital invested in the production and sale of liquors and the large number of persons who gain their livelihood in connection with it do not necessarily represent a force working for the permanence of the traffic. They certainly indicate, however, some measure of the

resistance to be encountered in any effort to abolish or restrict the use of liquor, and they explain the success with which radical reformatory measures are often thwarted. Yet these figures, formidable as they are, are not altogether discouraging. The largest interests are represented by the least alcoholic beverages. In 1900, the manufacture of malt liquors gave employment to 46,685 persons and yielded a product of \$237,269,713. The manufacture of distilled liquors employed 4,383 persons and yielded a product of \$96,798,443."

"There are very powerful economic forces which almost compel moderation in modern industry. It does not seem too optimistic to say that a complete change has taken place in the habits of the wage-earning class since the days in the early part of the century when men went on strike for the sake of getting their rations of rum.

"This change has been furthered by two agencies: the self-interest of the employed on the one hand and the self-interest of the employer on the other. The early labor organizations were almost always more or less associated with drink. But as the unions have become larger and wealthier they have been able to emancipate themselves from the public houses by having their own places of meeting, while the importance of keeping sober during strikes has impressed itself more and more upon them. The very magnitude of their financial operations necessitates the election of temperate men to the higher offices and the development of insurance benefits gives each member a direct interest in the sobriety of his fellows. No member of a union wants to feel that his contributions, laboriously saved from small earnings are to be used up for the support of a drunken fellow member.

"The employers on the other hand equally feel the importance of sobriety as a means of preventing accidents, of insuring good work and of securing responsibility. The report made by the department of labor on this subject reveals an agency which has hitherto been little noticed."

Chapter VI of the twelfth annual report of the bureau of labor is devoted to a consideration of the experience and practice of employers relative to the use of intoxicants. The object of the investigation was: "To acquire a knowledge of the lines of industry, establishments and occupations, in which those indulging in intoxicating liquors are not employed, and the reason for such non-employment; the extent of the use of liquors by employes subject to night work, overwork, exposure, irregularity of hours of labor; the relation between pay days, holidays and Sundays and over-indulgence in intoxicants."

A great majority of the employers in engaging new men took steps to ascertain what their habits as to the use of intoxicating liquors were. The occupation in which this was done to the greatest extent was transportation. In some establishments those addicted to intoxicants were not employed. The reasons most often assigned for looking into the habits of employes in this regard were "to guard against accidents" and "because of responsibility of position." It does not appear from the reports of the department that laborers subject to night-work and over-work were to any appreciable extent more addicted to intoxicants than the ordinary laborers. Considerably over one-half of the establishments reported greater indulgence in intoxicants immediately after pay day than at other times.

Table IX is reproduced from the report and shows the opinions of employers as to the most effective way to lessen the consumption of intoxicating liquors among the people. 1103 suggested prohibition; 769 considered that the refusal to employ drinking men the most effective; 445 advocated high license; 180 suggested education, and 1,132 suggested other means.

The returns thus tabulated afford opportunity for various conclusions. Most obviously it appears that the recognition of the evils of the use and abuse of intoxicants is quite general. It is equally clear that by far the largest number of those who agree on any one method of doing away with this menace, advocate prohibition. On the other hand when we compare the total number of those who favor prohibition with the grand total of those advocating means of reform, we see that less than one-fourth agree on prohibition—the most vast majority favor

other means. It is perhaps too early to say with any degree of assurance that such would be their final verdict. It is clear however that prohibition has been sustained by an earnest, even zealous, propaganda which none of the other schemes have had and this may explain its greater hold on the public favor. At present it would appear that it is not the form of regulation which the majority of the people are ready to accept.

"As more things are done by machinery, as trolley-cars supplant horse-cars, as implements of greater precision and refinement take the place of cruder ones, as the speed at which machinery is run is increased, as the intensity with which people work becomes greater, the necessity of having a clear head during the hours of labor becomes imperative and the very conditions of modern business life necessitates sobriety on the part of the workers. Those who would find profitable employment realize more and more the importance of moderation in drink."

CHAPTER IV.

SUMMARY.

That over-indulgence in intoxicants constitutes a menace to social welfare has long been accepted by thinking people as a settled truth. For over a half-century organized effort has been on foot to curtail the use of alcoholic stimulants with a view to its ultimate discontinuance. In presidential, state and municipal campaigns appeal has been made to the voting population to return legislators and executives who would see to it that alcoholism be wiped out. As a matter of national policy the movement has made but little headway; here and there at different times a number of states have enacted prohibitory legislation, but in none of them has prohibition been more than a qualified success. The experience of municipalities and other local units has been as varied as local conditions.

In the meantime the per capita consumption of alcoholic liquors has risen from 4.17 gallons in 1840 to 19.99 gallons in 1903. The increase has been mainly the result of the enormous growth in the consumption of malt liquors which rose from 1.36 gallons per capita in 1840 to 18.04 in 1903. The per capita consumption of distilled spirits was 2.52 gallons in 1840 and 1.46 gallons in 1903. It has been said that the change has been favorable. That while there has been an enormous increase in the per capita consumption it has been entirely in the use of the less intoxicating liquor and that on the whole less alcohol is now consumed than in 1840. This may be doubted. The decrease of 1.06 gallons in the per capita consumption of distilled spirits is more than offset by the per capita increase of 16.68 gallons in the consumption of malt liquors. The

amount of alcohol consumed, in fact, may fairly be said to have doubled by the exchange.

Side by side with the increase in consumption has gone the development of the financial and economic forces engaged in the production and distribution of liquors. Regarding the manufacture and sale as a unit the capitalization of the industry aggregates a billion and a half of dollars. It gives employment to approximately five hundred thousand people, and, assigning to each of them a family of four, furnishes support to two million citizens of the republic; without considering those who are engaged in the production and transportation of the products that go into its composition and those employed in transporting the manufactured article. Not only has the traffic become strongly intrenched on the purely industrial side but the financial integrity of the government itself has in a measure become bound up in its permanence. Nation, state, county and municipality, derive a large and an increasing proportion of their support from taxes imposed on the manufacture and sale of liquor. At the present time about fifteen per cent of the total revenues derived by all the units is paid by this industry. We find another consideration that makes most strongly for the permanence of the traffic in liquors. The saloon has become the center from which, more than from any other single institution, radiates the social life of the American workingman. These are considerations that must be borne in mind by those who are impatient to be rid of the institution and would root it out at a moment's notice.

According to the report of the Massachusetts Bureau of Labor 39.44 per cent of the paupers in the institutions of that state became such through the use of intoxicants. Two-thirds of the convictions for crime were convictions for drunkenness. Alcoholism led to 84 per cent of the whole number of convictions, and about 51 per cent of the total number of convictions for crime other than drunkenness. The Committee of Fifty estimates that 25 per cent of the poverty relieved by charity organization societies results from liquor, and 37 per cent of the pauperism found in institutions is due to that cause. 50 per cent of the crime is due in part to intemperance; while 16 per cent has that as its

sole cause. In the great majority of cases liquor is partly responsible for crime. But the pauperism which comes within the purview of charity organization work or finds its way into almshouses represents but the smallest part of the misery and economic waste properly attributable to the use of liquor. The time needlessly wasted, the vast economic resources diverted from their legitimate channels, must all be taken into consideration in attempting to cast up the damage which alcohol works to society.

Statistics, common observation and the history of political parties all seem to emphasize that prohibitory legislation is not suited to the present temper of the American people. The best thought of the time is beginning to unite in the belief that the solution of the liquor problem does not lie in high license or prohibition or a governmental dispensary. The liquor industry is rooted in a social need. Patient study and thoughtful endeavor must devise some means which will more effectively satisfy the want which the saloon at present supplies.

TABLE I.—*Distilleries in operation and breweries and production of distilled spirits, fermented liquors, and domestic wines, 1880-1903.*

Year Ending	Distilleries in Operation.		Breweries.		Domestic wines.
	Number.	Production.	Number.	Production.	
		Gallons.		Barrels.	Gallons.
June 30, 1880	4,661	91,374,417	2,741	13,347,111	23,453,827
June 30, 1881	5,210	119,528,011	2,474	14,311,028	19,000,000
June 30, 1882	5,022	107,283,215	2,371	16,932,085	19,999,996
June 30, 1883	5,129	73,294,510	2,378	17,757,892	17,487,000
June 30, 1884	4,738	76,531,167	2,240	18,928,619	17,500,000
June 30, 1885	5,172	76,405,074	2,230	19,185,953	17,503,000
June 30, 1886	6,031	8,849,260	2,292	20,710,933	21,000,000
June 30, 1887	4,905	79,434,446	2,269	23,121,526	28,000,000
June 30, 1888	3,646	71,688,188	1,968	24,680,219	31,900,994
June 30, 1889	4,349	91,133,550	2,114	25,119,853	30,000,000
June 30, 1890	6,211	111,101,738	2,156	27,561,914	24,906,905
June 30, 1891	3,819	117,707,101	2,138	30,497,209	24,236,906
June 30, 1892	5,925	118,436,506	1,967	31,856,626	23,725,418
June 30, 1893	4,743	131,010,330	1,930	31,591,179	27,126,500
June 30, 1894	5,148	92,152,651	1,805	33,362,373	18,875,728
June 30, 1895	2,429	81,969,771	1,771	33,589,784	17,718,560
June 30, 1896	6,187	89,962,555	1,806	35,859,250	15,980,000
June 30, 1897	3,158	64,279,075	1,830	34,462,821	137,380,076
June 30, 1898	3,558	83,668,411	1,845	37,526,117	19,105,863
June 30, 1899	3,917	100,162,334	1,959	36,697,137	24,366,584
June 30, 1900	3,614	109,245,187	1,816	39,471,538	27,990,912
June 30, 1901	3,745	128,568,201	1,771	40,614,290	25,150,000
June 30, 1902	2,938	132,843,802	1,807	44,550,127	45,700,000
June 30, 1903	2,441	148,206,875	1,733	46,720,179	32,680,145

¹ Includes domestic wines imported after exportation.

TABLE II.—*Alcoholic liquors: Summary 1900, 12th census, p. 597.*

	Total.	Liquors, malt.	Liquors, distilled.	Liquors, vinous.
Number of establishments	2,855	1,509	967	859
Capital	\$457,674,087	\$415,284,468	\$32,551,604	\$9,838,015
Salaried officials, clerks	8,158	7,153	661	344
Salaries	\$14,301,644	\$13,046,540	\$889,606	\$365,498
Wage earners, original number...	44,417	39,532	3,722	1,163
Total wages	\$28,005,484	\$25,826,211	\$1,733,218	\$446,055
Men, 16 years and over	43,107	38,385	3,623	1,099
Wages	\$27,726,021	\$25,573,612	\$1,715,552	\$436,857
Women, 16 years and over	646	504	81	61
Wages	\$156,850	\$132,614	\$15,428	\$8,808
Children, under 16	664	643	18	3
Wages	\$122,618	\$119,985	\$2,298	\$390
Miscellaneous expenses	\$183,009,796	\$109,329,231	\$73,218,227	\$52,338
Cost of materials used	\$70,512,042	\$31,674,928	\$15,147,784	\$3,689,331
Value of products	\$340,615,466	\$237,269,713	\$96,796,443	\$0,547,310

TABLE III.—*Alcoholic liquors: Comparative summary 1880, 1890, 1900 census reports.*

Year.	Estab- lishments reported.	Capital.	Average employes.	Total wages	Cost of materials.	Value of products.
1880....	3,152	\$118,037,729	33,689	\$15,078,579	\$85,921,374	\$144,291,241
1890...	1,924	\$69,270,219	41,425	\$1,678,166	\$9,230,532	\$29,775,639
1900....	2,835	\$47,674,087	52,575	\$2,307,128	\$3,512,012	\$40,615,466

TABLE IV.—*Manufacture of malt.*

Items	1880.	1890.	1900.
Number of establishments reporting ..	216	202	146
Capital	\$14,890,441	\$21,203,864	\$30,288,102
Average number of employes	2,332	3,694	2,280
Total wages	\$1,004,548	\$2,103,200	\$1,653,629
Cost of materials	\$14,321,423	\$17,100,074	\$14,816,741
Value of products	\$18,273,102	\$23,442,559	\$19,373,000

TABLE V.—Materials used for the production of distilled spirits.

Years.	Malt.	Wheat.	Barley.	Rye.	Corn.	Oats.	Mill feed.	Molasses.	Other materials.	Grain used.
1880.	Bu. 1,830,562	Bu. 5,108	Bu. 19,862	Bu. 3,623,655	Bu. 17,649,269	Bu. 140,962	Bu. 528,362	Gal. 8,110,190	Bu. 211,134	Bu. 24,006,339
1881.	2,455,184	180,866	121,083	4,680,800	23,108,114	177,853	612,736	2,710,307	505	31,291,475
1882.	2,192,719	301,241	50,675	4,228,649	20,531,239	108,488	452,330	2,121,804	13,754	27,459,065
1883.	1,476,971	291,368	73,360	2,987,773	13,428,469	122,353	240,340	2,373,106	22,203	18,614,787
1884.	1,683,914	114,475	199,656	2,867,603	13,746,505	124,165	241,078	2,259,536	591	18,927,962
1885.	1,688,578	130,721	17,855	2,733,397	13,040,357	80,552	223,538	2,719,416	185	17,865,203
1886.	1,823,758	35,179	19,891	3,283,959	13,821,193	58,652	130,700	2,308,180	.....	19,186,332
1887.	1,825,627	45,961	16,110	3,062,947	12,870,255	44,866	93,090	2,428,783	1,319	17,959,565
1888.	1,602,586	67,277	24,707	2,410,381	11,867,027	44,232	68,254	2,519,484	45	16,122,509
1889.	2,242,214	48,279	21,589	3,259,917	15,319,862	23,682	73,589	1,951,104	1,842	20,990,924
1890.	2,756,585	20,310	965	4,542,845	17,806,612	32,690	41,840	2,188,538	1,254	25,202,901
1891.	2,951,547	96,166	662	4,579,958	18,671,536	14,637	28,389	2,610,518	4,536	26,347,641
1892.	3,121,123	74,801	14,412	4,321,166	18,909,462	10,701	17,685	3,049,771	12,485	26,469,827
1893.	3,272,899	97,070	3,958	5,321,302	19,770,559	13,516	17,343	4,884,577	3,823	29,030,409
1894.	2,286,188	100,778	2,993	3,268,637	13,571,441	21,126	6,731	5,476,521	11,213	19,716,818
1895.	2,068,575	189,173	896	3,738,708	11,472,632	22,088	3,925	5,802,811	4,299	18,657,407
1896.	2,103,602	49,000	1,748	2,933,633	13,497,689	16,313	2,430	5,388,965	3,923	18,630,618
1897.	1,406,740	8,600	1,710	4,638,101	10,652,411	10,690	2,526	6,153,342	8,921	13,131,891
1898.	1,941,519	14,451	4,212	2,712,280	12,563,442	12,864	1,535	4,363,465	9,763	17,280,246
1899.	2,471,417	19,182	1,518	3,363,867	15,632,869	14,865	1,530	2,920,660	5,320	21,530,468
1900.	2,721,124	27,225	1,328	4,070,861	16,277,084	15,414	611	2,908,645	665	23,114,262
1901.	3,274,212	34,172	2,176	5,085,786	18,697,668	31,114	4,319	3,165,391	700	27,278,847
1902.	3,361,107	29,361	2,142	5,054,639	18,473,860	37,715	1,678	12,445,278	849	27,467,351
1903.	3,754,065	32,197	3,376	5,873,236	20,367,384	31,235	1,924	15,544,860	2,910	30,586,549

TABLE VI.—*Liquors, malt; materials and products, 1900.*

	Unit of measure.	Quantity.	Cost of materials.	Value of products
Materials:				
Total			\$51,674,928	
Malt.....	Bushels.	36,385,365	\$20,539,306	
Corn, partially manuf'd.	Pounds.	483,998,184	4,805,887	
Barley.....	Bushels.	11,232,599	5,534,069	
Hops.....	Pounds.	37,465,811	5,858,263	
Fuel, and rent of power and heat			4,742,998	
Mill supplies			599,479	
All other materials			8,742,771	
Freight.....			831,551	
Products:				
Total				\$237,269,713
Beer, ale and porter.....	Bbl. of 31 gal.	38,664,584		\$234,275,259
All other products.....				2,994,454

TABLE VII.—*Consumption of wines and liquors.*

YEARS.	WINES.		MALT LIQUORS.		DISTILLED SPIRITS.		Total consumption of wines and liquors.	Consumption per capita of all liquors.
	Con- sumption (gallons).	Per cap.	Con- sumption (gallons).	Per cap.	Con- sumption (gallons).	Per cap.		
1840 ..	4,873,096	29	23,310,843	1.36	43,060,884	2.52	71,244,823	4.17
1850 ..	6,315,871	27	36,563,000	1.58	51,831,473	2.23	94,712,353	4.08
1860 ..	11,039,141	35	101,346,639	3.22	89,968,651	2.86	202,374,431	6.44
1870 ..	12,225,077	32	204,756,156	5.31	79,895,708	2.07	296,876,941	7.07
1880 ..	28,329,541	56	414,230,165	8.26	69,526,694	1.27	506,076,400	10.09
1890 ..	28,956,981	46	855,792,355	13.67	87,829,562	1.40	972,578,898	13.53
1891 ..	29,033,792	45	977,459,761	15.31	91,157,365	1.43	1,095,671,118	17.19
1892 ..	28,467,860	44	987,466,223	15.17	98,328,118	1.51	1,114,262,201	17.12
1893 ..	31,987,819	48	1,074,546,356	16.29	101,197,753	1.52	1,207,731,928	18.39
1894 ..	21,233,124	31	1,030,319,222	15.32	93,541,209	1.34	1,148,153,555	16.97
1895 ..	19,644,049	28	1,043,262,106	15.15	77,828,561	1.13	1,149,734,716	16.54
1896 ..	18,701,406	26	1,080,626,165	15.28	71,851,877	1.01	1,170,379,448	16.93
1897 ..	38,588,307	53	1,060,310,232	14.94	73,166,848	1.02	1,181,065,402	16.50
1898 ..	20,567,317	28	1,164,226,462	15.96	81,187,587	1.12	1,266,281,366	17.36
1899 ..	26,360,686	35	1,135,529,629	15.28	87,310,228	1.17	1,249,194,553	16.90
1900 ..	30,427,491	40	1,221,309,460	16.01	97,218,382	1.27	1,349,176,033	17.68
1901 ..	28,791,149	37	1,258,249,360	16.20	103,099,839	1.33	1,389,127,357	17.90
1902 ..	49,754,463	63	1,381,854,457	17.49	107,452,151	1.38	1,539,061,071	19.48
1903 ..	59,413,201	49	1,410,829,552	18.04	117,252,148	1.46	1,606,545,301	19.99

Statistical abstract.

TABLE VIII.—*Recapitulation: Total annual revenue from liquor manufacture and traffic, 1896.*

*Tax on real and personal property employed in manufacture.....	\$1,225,805 85
*Tax on real and personal property employed in traffic.....	10,075,120 00
Ad valorem tax in Kentucky and Missouri.....	32,115 70
United States internal revenue tax.....	114,450,851 77
License fees or special taxes, states.....	10,399,015 60
License fees or special taxes, counties.....	5,011,225 06
License fees or special taxes, municipalities.....	34,155,298 25
Fines, states.....	91,298 56
Fines, counties.....	378,557 75
Fines, municipalities.....	53,916 01
*Fines, sales of confiscated liquors, etc.....	123,844 96
Customs duties on imported liquors.....	6,736,065 00
Total.....	\$183,213,124 51
United States internal revenue tax (1903).....	179,401,328 47

* Estimated.

TABLE IX.—*Establishments suggesting means to lessen the consumption of intoxicating liquors among the people.*

Means suggested.	Establishments Suggesting Means.					
	Agriculture.	Manufactures.	Mining and quarrying.	Trade.	Transportation.	Total.
Prohibition.....	207	481	295	49	71	1,103
Do not employ drink'g men.....	64	407	108	49	143	769
High license.....	41	269	60	30	36	445
Education.....	9	102	27	19	23	180
Abolish saloons.....	28	99	21	2	9	159
Education, moral and religious.....	13	81	13	18	11	136
Improve social conditions.....	18	53	33	4	17	125
Government control.....	33	60	15	9	3	120
Enforce existing laws.....	16	72	21	4	1	114
Limit number of saloons.....	1	75	4	.....	5	85
Remove all restrictions.....	17	28	16	10	4	75
Encourage use of light wines and beers.....	11	41	3	13	4	72
High license and do not employ drinking men.....	8	28	7	10	10	63
Local option.....	14	31	12	5	1	63
High revenue tax.....	12	25	13	2	5	57
Prohibit treating.....	3	28	14	6	5	56
Example of employers.....	2	27	11	2	11	51
Close saloons Sunday and early week days.....	5	38	6	2	2	53
Make drunkenness a punishable misdemeanor.....	5	27	12	8	1	53
All other means suggested.....	146	578	188	97	123	1,132
Total.....	653	2,550	886	340	485	4,914

FEDERAL GOVERNMENT STATISTICS OF LIQUOR MANUFACTURE AND TRAFFIC IN WISCONSIN.

The census reports two establishments in Wisconsin engaged in the manufacture of vinous liquors but no further facts with reference to them are given. As to malt liquors the census reports show (see Table X) that in 1890 there were 107 establishments with a capital of \$16,803,323, supporting 306 salaried officials to whom was paid the sum of \$407,271. The wage-earners numbered 2,859 and received \$1,457,308 in wages. The miscellaneous expenses were \$3,806,846, the cost of materials used \$4,829,390 and the value of the product \$14,193,057. In 1900 the establishments had increased to 147, the capital to \$35,317,950, the salaried officials to 484 and the salaries paid to \$726,069. There were 3,904 wage earners and they received \$1,926,730. The miscellaneous expenses underwent the enormous increase to \$10,259,291 while the cost of materials declined to \$4,237,454. This apparent exception to the general increase as elsewhere explained is due to the fact that many items listed under cost of materials in 1890 were classified as miscellaneous expenses in 1900. The value of the product in 1900 was \$19,394,709.

TABLE X.—*Alcoholic liquors: Summary for Wisconsin, census 1900*

	No. of estab- lishments.	Capital.	Salaried Officials.		Wage Earners.		Miscel- laneous expenses.	Cost of materi- als used.	Value of products.
			No.	Salaries.	Average No.	Total wages.			
1890.									
Malt liquors	107	\$16,830,223	306	\$407,271	2,859	\$1,457,308	\$3,806,846	\$4,829,390	\$14,193,057
Distilled liquors	Not given.								
1900.									
Malt liquors	147	\$35,317,950	484	\$726,069	3,904	\$1,926,730	\$10,259,291	\$4,237,454	\$19,394,709
Distilled liquors ...	5	773,890	11	11,000	53	29,979	2,280,404	\$42,296	2,698,984
Total	152	\$36,091,840	495	\$737,069	3,957	\$1,956,709	\$12,539,695	\$4,579,750	\$22,093,693

LABOR.

In 1900 five establishments with a capital of \$773,800 were engaged in the manufacture of distilled liquors; they employed 11 salaried officials paying them \$11,000 and 53 wage-earners to whom was paid the sum of \$29,979. The miscellaneous expenses of these establishments were \$2,280,404. They used materials costing \$342,296 and the value of their product was \$2,698,984.

The totals for malt liquors and distilled spirits combined in 1900 were as follows: Establishments, 152; capital \$36,091,840; salaried officials, 495; salaries, \$737,069; wage-earners, 3,957; total wages, \$1,956,709; miscellaneous expenses, \$12,539,695; the cost of materials was \$4,579,750; while the aggregate value of the product was \$22,093,693.

Table XI shows the production, amount of tax paid and per cent of total tax paid in the United States for distilled spirits and fermented liquors in Wisconsin from 1890 to 1903. It will be seen that the production of distilled spirits increased from 527,678 gallons in 1890 to 2,216,341 gallons in 1903. The production of fermented liquors, increased from 2,067,961 barrels in 1890 to 3,886,496 in 1903. It will be noted that the production of distilled spirits increased uniformly with the single exception of the year 1897 when there was a falling off from the output of the previous year. The production of fermented liquors was not as uniform from year to year while on the whole there was an increase it was by no means as constant or decided as in the case of distilled spirits. The amount of tax paid on distilled spirits in 1903 was \$2,565,864.35; that paid on fermented liquors was \$3,902,201.96. The amount of tax paid was, of course, governed by the rate in force each year, and during the years when the war revenue act was in force the amount of tax paid was in excess of what it would otherwise have been.

The column of percentages shows that Wisconsin paid 1.9444% of the total tax paid on distilled spirits in the United States. Approximately 2% of the country's output of dis-

tilled spirits is produced by Wisconsin. From the column for fermented liquors it appears that 8.2066% of such liquors is produced in the state of Wisconsin.

Table XII taken from the Twelfth Annual Report of the Commissioner of Labor reveals some interesting information regarding the practice of employes in cashing their pay-checks. The figures and percentages may be taken as fairly indicative of the relative influence of the saloon among the various nationalities. It appears that 100% of the Hungarians and Poles reported as cashing pay checks, cash their checks at saloons; 64% of the Germans and 35% of the English, Americans, Scotch and Irish.

The Twelfth Annual Report of the Federal Labor Bureau presents an estimate of the total revenue derived from liquor manufacture and traffic in Wisconsin for the year ending June 30, 1906, by national, state, and local governments. The results of these estimates are given in Table XIII. The total amounts received for licenses by county governments is put at \$3,950, and by towns, cities and villages at \$1,431,697.89, making a total receipt for all local liquor license of \$1,435,647.89. Fines for violations of laws for the regulation of the liquor traffic brought the state and local governments a total revenue of \$9,399.35. The total revenue of state and local governments from the liquor traffic was, therefore, \$1,445,047, of which amount about 99% was received for saloon licenses in cities, villages and towns. To this amount may be added \$4,418,767, the amount paid the federal government in the form of excise taxes on alcoholic liquors manufactured in this state, giving a total of the government revenue from the manufacture and sale of intoxicants and not including taxes on property, in the state of Wisconsin of \$5,863,814.

The facts presented in table XIV are also taken from the Twelfth Annual Report of the United States Labor Department. They represent the totals of the returns from 2,511 Wisconsin establishments engaged in liquor traffic and from which the department was able to obtain replies for its special

investigation. While these figures do not cover probably one-half of the liquor traffic in the state, they are, nevertheless, valuable as the basis for certain averages and proportions which may be applied to the complete number of establishments. It may safely be assumed that any average which is representative for over 2,500 of the establishments in the state would be approximately correct for all.

Of the total number of establishments reporting to the United States Labor Department 2,079 were retail only, and 2,428 were principally retail, and 67 more were retail and wholesale. Only 16 or about 65/100 of 1% were wholesale establishments. The average size of these establishments in point of capital, number of proprietors and employes, etc., is probably not above the average of all establishments in the state, but rather below it if anything.

The total capital owned by the 2,511 establishments was \$4,556,292, of which \$2,680,648 was in real estate, \$419,727 in fixtures and \$1,455,917 in sundries. The total rented capital of the 2,511 establishments was reported as \$5,091,074, of which \$4,864,281 was real estate and \$226,793 fixtures. The total capital employed, both owned and rented, was \$9,647,366, of which \$7,544,929 or 78.2% was invested in real estate, \$646,520 or 6.7% in fixtures and \$1,455,917 or 15.1% in sundries. Of all the real estate employed 35.6% was owned, of the fixtures 65% and of the sundries 100%.

The average total amount of property employed, either owned or rented, per establishment was about \$3,840; the average amount in real estate about \$3,010, in fixtures about \$250, and in sundries about \$580.

The total annual taxes on property paid by the 2,511 establishments reporting was \$170,485; \$144,622 on real estate, and \$25,863 on personal property. The average property tax paid annually per establishment was therefore about \$68.

The total annual rental paid on rented property was \$483,565, principally on real estate. The average annual rental per establishment amounted to about \$192.50.

The total number of proprietors and firm members for 2,511 establishments was 2,735 or an average of 1.09 persons

per establishment. The total average number of employees required by the 2,511 establishments was 2,165 or an average of .86 persons per establishment. The total average number of persons both proprietors and employees engaged in the liquor traffic was therefore 1.95 per establishment. According to the returns the number of persons actually employed was over 32 per cent in excess of the number of persons reported as required. But it would appear that the former figure is the more significant as it is based on actualities whereas the number required is probably largely based on estimates.

TABLE XI.—*Product and taxation for Wisconsin and per cent. of total produced in U. S.*

	Distilled Spirits.			Fermented Liquors.		
	Production, gallons.	Tax paid.		Production, barrels.	Tax paid.	
	Per cent.			Per cent.		
1890.....	* .8166	527,678	\$867,021.17	* 7.4617	2,067,961	\$1,940,689.98
1891.....	.7170	528,316	597,534.44	8.0785	2,477,834	2,307,649.66
1892.....	.7323	539,474	668,692.77	8.1570	2,631,783	2,450,148.62
1893.....	.7738	639,410	731,758.87	8.6518	3,019,022	2,816,077.64
1894.....	1.3831	1,230,578	1,179,461.92	8.6333	2,908,461	2,712,140.01
1895.....	1.8010	1,352,223	1,438,306.89	8.3097	2,807,001	2,629,246.01
1896.....	2.1756	1,477,096	1,755,021.58	7.8846	2,851,334	2,663,745.51
1897.....	1.8539	1,239,283	1,520,365.52	7.6938	2,673,948	2,498,341.03
1898.....	1.8365	1,498,688	1,699,579.23	7.5972	2,886,502	3,002,079.86
1899.....	2.4494	1,904,401	2,431,867.52	7.6059	2,846,233	5,221,022.07
1900.....	2.4091	2,218,147	2,646,848.87	7.9888	3,205,265	5,881,748.50
1901.....	2.5199	2,426,613	2,923,838.10	7.9002	3,240,714	5,378,076.53
1902.....	2.3063	2,349,027	2,793,680.71	8.2313	3,700,046	5,924,814.63
1903.....	1.9444	2,216,341	2,565,861.35	8.2096	3,886,496	3,900,372.11

* Per cent. of total raised by taxation in U. S.

TABLE XII.—*Per cent. of employees cashing pay-checks at groceries, saloons, etc.*

	Saloons.	Groceries.	Savings banks.	Total.
Savings banks, etc., by nationalities Milwaukee				
Hungarians and Poles ..	100	.....	.....	100
Germans	61	36	.....	100
English and Americans ..	35	65	.....	100
Scotch and Irish	25	65	.....	100
Total	58.5	41.5	.....	100

TABLE XIII.

	State.	County.	Municipal.	Total.	
License fees or special taxes.....		\$3,950 00	\$1,431,697 89	\$1,435,647 89	.....
Fines collected.....	\$3,620 84	338 22	5,440 29	9,399 35	.....
Total revenue collected.....					\$1,445,047 24
Federal tax on manufacture.....					4,418,767 00
Total state, county, municipal and federal govern't.....					\$5,863,814 23

TABLE XIV.—Summary of capital invested, taxes and rent paid, and persons in Wisconsin engaged in each class of liquor traffic, 1896.

	No. establishments.	CAPITAL.						
		Owned.				Rented.		
		Real estate.	Fixtures.	Sundries.	Total.	Real estate.	Fixtures.	Total.
Retail only.....	2,079	\$1,931,181	\$294,982	\$478,386	\$2,704,529	\$3,984,955	\$180,070	\$4,165,025
Retail and other.....	349	458,194	77,420	94,448	630,052	522,376	45,023	567,399
Wholesale only.....	13	72,500	6,150	233,775	312,425	41,500	.....	41,500
Wholesale and other.....	3	2,200	125	11,500	13,825	10,200	.....	10,200
Retail and wholesale.....	64	215,043	40,890	635,768	891,701	308,850	1,700	305,550
Retail, wholesale, etc.....	3	1,550	160	2,050	3,760	1,400	.....	1,400
Total.....	2,511	\$2,680,618	\$419,727	\$1,455,917	\$4,556,292	\$4,864,281	\$226,793	\$5,091,074

TABLE XIV.—Continued.

Aggregate Capital.	Yearly Taxes.			Rent paid during the year.	Proprietors and firm members.			Average Employees During Year.					
	Real estate.	Personal property.	Total.		Males.	Fe. males.	Total.	Number actually empl'd.			Number required.		
								Males.	Fe. males.	Total.	Males.	Fe. males.	Total.
\$6,869,554	\$113,208	\$11,712	\$124,920	\$402,408	2,123	76	2,199	964	145	1,409	934	156	1,090
1,197,451	18,515	2,477	20,992	49,804	363	10	403	325	108	433	182	47	229
353,925	2,303	2,636	4,939	4,945	21	...	21	68	...	68	68	...	68
24,025	273	209	482	1,000	8	...	8	5	...	5	4	...	4
1,197,251	10,278	8,733	19,011	25,252	95	2	97	212	4	246	241	4	245
5,160	45	36	81	156	4	...	4	4	...	4	3	...	3
\$9,647,366	\$144,622	\$25,863	\$170,485	\$483,565	2,647	88	2,735	1,608	557	2,165	1,432	207	1,639

The totals given here are only for the establishments in Wisconsin from which reports were secured by the Federal Labor Bureau.

LAW AUTHORIZING PRESENT INVESTIGATION.

Chapter 418—Laws of 1903.

AN ACT to provide for the collection and publication of statistics relating to the sale of alcoholic liquors.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Statistics of sale and consumption of alcoholic liquors.

SECTION 1. The commissioner of labor and industrial statistics is hereby authorized and required to collect and publish all available facts concerning the manufacture, sale and consumption of spirituous, malt, vinous, or intoxicating liquors used as beverages in the state of Wisconsin.

Penalty. SECTION 2. The refusal of any dealer or manufacturer or employe of any dealer or manufacturer of said liquors to answer the questions, required by said commissioner under section one (1) of this act, shall be considered a misdemeanor, and said dealer or employe shall upon conviction thereof be fined not less than twenty-five (25) dollars nor more than one hundred (100) dollars, or imprisonment in the county jail not less than thirty days, nor more than sixty days.

SECTION 3. This act shall take effect and be in force from and after its passage and publication.

Approved May 22, 1903.

SUMMARY OF STATUTES RELATIVE TO THE GRANTING OF LIQUOR LICENSES IN WISCONSIN.

Each town board, village board and common council may grant licenses, subject to certain conditions, to such persons as they deem proper for the purpose of selling spirituous and malt liquors in their respective towns, villages or cities, on the condition that they file with the clerk of the town, village or city a bond for \$500, with at least two sureties, conditioned on the faithful observance of law. The sum to be paid for such license shall be (subject to the right of increase as provided by law) in towns having within their boundaries no city or village, incorporated or unincorporated, with a population of five hundred or more, one hundred dollars, and in all cities and villages and other towns, two hundred dollars, except for registered pharmacists, who may be licensed to sell spirituous liquors in amounts less than one gallon for

medical, mechanical or scientific purposes, and not to be drunk on the premises, on the payment of ten dollars for such permit. In case no such permit is granted, the pharmacist may sell such liquor only on the prescription of a physician. The pharmacist to whom a permit has been issued must maintain a record of the date, kind and quantity of liquor sold and the person to whom sold and this record must be open for inspection by the board or council which granted the permit.

Special elections may be held in cities, villages and towns for the purpose of determining the amount to be paid for licenses for the sale of liquors to be drunk on the premises. For this purpose, the clerk on a request in writing signed by twelve electors of the city, village or town, shall give notice of such special election. Such elections, which are subject to the rules pertaining to general elections as nearly as practicable, must be held on the third Tuesday of September; no other question can be submitted to the electors at the same time; and no such elections can be held oftener than once in three years.

At such special elections in towns where the sum to be paid for license is fixed at one hundred dollars the electors may increase such sum to either two hundred and fifty dollars or four hundred dollars; and in all cities, villages and towns wherein the sum to be paid for licenses is fixed at two hundred dollars they may increase such sum to either three hundred and fifty dollars or five hundred dollars. The ballots have printed upon them each of the sums which may be voted for, that is, either of the several sums of one hundred dollars, two hundred and fifty dollars, or four hundred dollars, in the class of towns first named, and either of the sums of two hundred dollars, three hundred and fifty dollars or five hundred dollars in all cities, villages and other towns. The sum receiving the highest number of votes at such election is the sum to be paid for licenses until changed by another election. If the highest amount voted for on the ballot does not receive a plurality of the votes cast, then the votes cast for such amount are considered as having been cast for the next lower amount and are so counted, in case of a tie vote upon the lowest and highest amount voted for, and there are no votes cast for the medium sum, such medium sum is considered the sum to be paid for licenses. These provisions are not to be construed to diminish the sum to be paid for such license in any city or village as fixed in the charter or ordinances thereof.

Whenever a number of electors in any city, town or village equal to ten per cent, or more than ten per cent of the total number of votes therein cast for the governor at the last general election, present to the clerk thereof a written petition signed by them asking to have submitted the question whether or not licenses shall be granted for the sale of spirituous or malt liquors to be drunk on the premises, the clerk shall make an order to have that question submitted to the electors, the election to take place on the first Tuesday of April, following the date of the order. These elections are held and the returns canvassed in the same manner as other elections are conducted. If a majority of the ballots cast at such election are against licenses it becomes unlawful to deal in liquors in such city, town or village, and any license granted for the sale of liquors while

the result of that vote remains unreversed is void; but if the majority of the votes are in favor of licenses, then the city, town or village may grant such licenses.

A method for the exclusion of saloons from territory seeking annexation to any city of the second, third or fourth class is furnished in a law which provides that when a petition for annexation is presented to the common council and praying that such territory be without license, no license shall be granted within that territory if annexed, until the question of license or no license shall have been first submitted to the electors of that territory at a special meeting conducted in the same manner as a ward election, and a majority of all votes cast on the question must be in favor of licenses in order to permit the council to grant any within that territory.

METHOD OF PRESENT INQUIRY.

The present inquiry into the liquor traffic in Wisconsin aims to take into consideration only a few of the leading facts with reference to the retail distribution of liquors. Among these are the application of the local option law, high and low rates of license, number and distribution of saloons with reference to the numbers and density of population, etc. While, under the law authorizing this investigation, it appears that the department is empowered to inquire into other phases of this intricate question, it was believed that the time which could be devoted to the present inquiry would be more profitably devoted and more practical results obtained through research along the lines above laid down. While the law aims to empower the bureau to compel information from persons engaged in the manufacture or traffic in spirituous liquors, it seemed unadvisable to pursue this course for the present inquiry, at least. More reliable information of a most important character was found to be far more readily obtainable from other sources than those designated in the law. As this information had not been hitherto collected and compiled, and as it would no doubt furnish abundant material for the consideration

which could be properly devoted to the subject at the present time, it was decided to narrow the lines of investigation somewhat within the limits suggested by the statute.

The information here collected and published for the first time, taken apart from the other matter which it is necessary to consider in connection, may be fitly described as a census of saloon licenses in Wisconsin. The source of the statistics of which this census is composed is almost wholly official and it is believed that the returns are, for the most part, quite reliable.

To obtain this information, short circular letters were prepared and sent with inquiry blanks to each of 1,428 town, city, and village clerks of the state. In order to secure complete and prompt returns, the blanks were worded so as to make the replies as brief and simple as possible. The questions asked were: 1st, the number of saloon licenses in force in the corporate limits of each corporation, in January, 1905; 2d, the rate of license; and 3d, if no licenses were in force, what was the reason for such condition. To most of these inquiries, prompt replies were received. In very many cases, however, it was necessary to send a second blank, and in several instances, even a third request for this information was necessary. In this manner, however, returns were obtained for all but about fourteen towns and four villages. Further efforts were made to complete the returns by similar inquiries sent to the nearest newspaper and to the county clerk of the county in which the delinquents were located. This effort met with only qualified success, netting, finally, returns for seven towns and two villages. Thus there remain unreported five towns and two villages, with a total population of 5,339. With the exception of these towns and villages and the Indian reservations, the statistics herein presented are complete for the entire population and area of the state.

The returns thus obtained were readily classified into three principal classes. One of these classes comprises the cities, villages, and towns granting license; one the cities, villages, and towns in which "No license" has been voted under the local option law, and the third, cities, villages, and towns having

no application for license. The first class is sharply defined and there is little room for error in this division, although mistakes of fact may appear in a few instances in the original returns. Between the remaining two classes, the line of demarcation was not always sharply drawn. In some instances it was indeed difficult to determine from the replies whether absence of license was because of a vote under local option laws, or merely because of no application for license. Moreover, it appeared from the replies that in several instances the lack of applications for license was due to a generally accepted belief that anti-saloon sentiment in the community was of such force as to make the business unprofitable, or to a settled public policy of electing a town board which would refuse to grant license on application. Thus it is seen that absence of saloon license is often due to forces of public sentiment expressed otherwise than through the local option law. In compilation of the returns, it has been endeavored to class the several cities, villages, and towns with as little error as possible. In all cases where it was impossible to determine between "No license" because of a local option vote and no license because of no application, the latter class was given the preference. In this way, the first two classes are fairly reliable and correct except for possible shortages in the second class. This defect, however, is met to a certain extent by a careful examination of both non-license classes with reference to the principal facts bearing upon the situation in each case as determined from other sources. Chief among these considerations are density of population, nearness of licensing cities, villages, or towns, and nearness of post-offices, railroad stations, villages, or centers of population not licensing.

The returns from the city, village, and town clerks reported the number of saloon licenses in force, January, 1905. The latest census of the state (when these returns were completed) was the federal census of 1900. During the intervening time there has been a very considerable increase in the population in some parts of the states. It is clear, therefore, that liberal allowances must be made in comparing the average population per license, in the several parts of the state, when this average

is based on the population of each given locality in the year 1900 and the number of licenses in force in 1904-5. Particularly in reference to localities in the northern counties must this caution be observed.

In an effort to arrive at the average population per square mile in the townships in the several classes and localities, the same difficulty is encountered. The average here arrived at is approximately the average population per square mile in 1900 rather than the average at the time when the given number of licenses were in force. For comparative purposes, these objections, fortunately, are of much less force as regards the Eastern, Southern and Southwestern counties of the state which represent a little over eighty per cent of the entire population of the state. With possibly here and there an exceptional instance, comparisons of these factors as between the localities above designated may be assumed to be reasonably representative.

The difference between the time of this inquiry and that of the last census of population then available leads also to another difficulty, namely the population of new towns, cities, and villages created since 1900, of which there are a considerable number. Possibly ten per cent of all towns have been created, divided, or readjusted with respect to their boundaries since 1900. In all such cases, it was found necessary to estimate or approximate the population. With only one or two exceptions, each of these various civil divisions cast a separate vote at the last general election. In order to have an estimate of the population in all such cases, the total population of the given territory, as enumerated in the last census, was prorated to the various civil divisions in proportion to the total number of votes polled by each at the last general election. Thus, by way of illustration:

Town A had, in 1900, 1,000 population.

Subsequently, town B was created by division of town A.

At the general election, 1904, town A cast 100 votes and town B, 100 votes.

The estimated population of the present territory of town A, in 1900, is 500.

The estimated population of the present territory of town B, in 1900, is 500. .

Again:

Town A had, in 1900, 1,500 population.

Town B had, in 1900, 2,000 population.

Subsequently, village C was created out of the territory on the boundary of the two towns, A and B.

At the general election, 1904, town A cast 200 votes, town B, 300 votes, and village C, 200 votes.

The total population of the entire territory in 1900 was 3,500, the total vote cast in 1904, 700.

The proportions, therefore, stand as follows:

Pop. (est.) town A : 3,500 :: 200 : 700 = 1,000.

Pop. (est.) town B : 3,500 :: 300 : 700 = 1,500.

Pop. (est.) village C : 3,500 :: 200 : 700 = 1000.

For the more settled portions of the state, at least, it is believed this method of distributing the population to reorganized or newly organized corporations is sufficiently accurate for all comparative purposes. In the few instances in which a separate vote was not cast by new towns at the last general election, or the articles of incorporation had not yet been filed with the Secretary of State, the license returns from the new towns were added to the returns from the original towns and no further account of the new towns taken.

The areas of the several townships on which the density of population was computed were approximated from the recorded county plats and the ordinances of incorporation on file in the office of the Secretary of State. No attempt is made to estimate the density of population in cities and villages. Such computations would be open to so great liabilities of error that the attempt would be impracticable and the results, if obtained, of little significance.

It appeared upon first tabulation of the license returns that in the matter of saloon license and rates of license, particularly outside of cities and villages, there were marked differences between various sections of the state. Roughly, the state was divided into three sections, throughout each of which there were common characteristics, not found, or found

in a very different degree in other divisions. Of course, no such lines of demarcation could be sharply and definitely drawn so as to include in a compact group all examples of a given type and to exclude all of another. But it was determined that, by following county lines, compact divisions could be made in which certain conditions appeared to be typical. This was confirmed by the division itself and the study of the various divisions. The three divisions as laid out were as follows:

Eastern division counties: Brown, Calumet, Dodge, Door, Fond du Lac, Jefferson, Kenosha, Kewaunee, Manitowoc, Marinette, Milwaukee, Oconto, Outagamie, Ozaukee, Racine, Shawano, Sheboygan, Walworth, Washington, Waukesha, Winnebago; in all twenty-one counties. This division may be roughly described as composed of the two eastern tiers of counties and part of the third. For the most part, the western boundary of this division lies near the twelfth division of longitude.

Southwestern division counties: Adams, Buffalo, Columbia, Crawford, Dane, Dunn, Eau Claire, Grant, Green, Green Lake, Iowa, Juneau, La Crosse, Lafayette, Marquette, Monroe, Pepin, Pierce, Richland, Rock, St. Croix, Sauk, Trempealeau, Vernon, Waushara; in all twenty-five counties. This area may be roughly described as that part of the state lying south and west of a line from Lake Winnebago to the Falls of the St. Croix River, with the exception of Jackson county.

Northern division counties are Ashland, Barron, Bayfield, Burnett, Chippewa, Clark, Douglas, Florence, Forest, Rusk, Iron, Jackson, Langlade, Lincoln, Marathon, Oneida, Polk, Portage, Price, Sawyer, Taylor, Vilas, Washburn, Waupaca, Wood; in all twenty-five counties. This division embraces the area not included in the other two divisions.

As already stated, these lines do not strictly define all examples of particular conditions in any case within any particular division. But in each division certain characteristics predominate to such a degree and differences from the remaining divisions are so marked as to make the separate presentation of the facts as to each division not only warrantable but highly

profitable. It is true that the division is not ideal. No ideal geographical division could be made that would be of any advantage. In no case can any general statement be made about conditions of any division to which there will not be important exceptions. But with the detailed tables herewith appended, no one need be led into serious error by taking the generalizations too literally. Meanwhile, the generalizations themselves are most valuable. They bespeak the most important, the most characteristic features of the conditions prevailing in each division. By comparison of the corresponding conditions between the various divisions of the state, these characteristics become emphasized and the conclusions take on added significance. It is almost an axiom in the analysis of large bodies of figures, that statistical information is at its best only when it is comparative. Since there has not been published any similar official investigation, comparison with former conditions here, or present or former conditions elsewhere, was impossible. The next best thing was to divide the state and compare the divisions one with another. In the analysis of these returns so much space will necessarily be occupied in stating general facts about the several divisions and the state as a whole that little specific account can be taken of the many exceptions to these generalizations. In this sort of discussion, a single representative average is more important and more expressive than several contrary details which are necessarily effaced in the average itself.

It has been the purpose in writing the foregoing detailed account of the method of this investigation to lay bare the entire source and nature of the conclusions herein offered in order that they may be taken at their true worth. The appended tables give in full the detailed statistics upon which the results and summaries are based.

RESULTS OF INQUIRY.

ANALYSIS OF SUMMARY TABLES.

No particular sequence of order or importance is dictated by the character of the facts to be presented. The analysis of these statistics may, therefore, properly follow approximately the lines which were found most convenient in arranging the tabulations. The interdependence of the facts offered is not intricate and there is little chance for confusion. The detailed matter of the several summary tables is presented first in the order of the tables. The most important features of this analysis will then be brought together in the form of a general conclusion.

CITIES AND VILLAGES HAVING LICENSES IN FORCE.

The total number of cities and villages reporting licenses in force is 296. Of this number 113, or 38.2%, are cities and 183, or 61.8% are villages. With reference to location these cities and villages are distributed as follows: Eastern division counties, 45 cities, 55 villages; Southwestern division counties, 42 cities, 85 villages; Northern division counties, 26 cities, 43 villages.

The number of cities and villages having the various rates for saloon license are as follows: minimum rate, 187 cities and villages, or 63.2% of all; medium rate, 14 cities and villages, or 4.7% of all; and maximum rate, 95 cities and villages, or 32.1% of all cities and villages granting licenses.

In the Eastern division counties, 83 cities and villages, or 83% of all licensing cities and villages of this division have the minimum rate for license. In the Southwestern division counties, 62 cities and villages, or 48.9% of all in the division have the minimum rate. In the Northern division counties, the minimum rate maintains in 42 cities and villages, or 61% of all licensing cities and villages in the division. The medium rate of license, as designated by statute,

is in force in only a comparatively small number of cities and villages; 2 in the Eastern division counties, 8 in the South Western, and 4 in the Northern. Out of 100 licensing cities and villages in the Eastern division counties, only 15 have voted for the maximum rate of license under the law. In the Southwestern division counties, however, the maximum rate prevails in 57 cities and villages, or nearly 45% of all licensing cities and villages in these counties. In the Northern division counties the number of maximum license cities and villages is 23, or 33.2% of all licensing cities and villages in these counties.

Minimum rate of license is the most common among the cities and villages of all parts of the state. In the Eastern counties, more than four-fifths of the cities and villages have the minimum rate. In the Southwestern counties, the cities and villages having the minimum rate are only a little more numerous than those having the maximum rate. In the Northern counties, the proportions are approximately the same as for the state as a whole. These variations between the divisions are much smaller, however, where the number of licenses at the various rates is the basis for consideration, it appearing that the high license cities and villages of the Southwestern counties are those which, on the average, grant the smallest number of licenses each. The reverse appears to be true for the Northern counties, where the maximum rate is in force in most of the larger cities.

The total number of saloon licenses in force in 296 cities and villages is 6,289. Of this number, 4,036, or 64.2%, are in force in cities and villages in Eastern counties; 1,220, or 19.4%, in cities and villages in Southwestern counties; and 1,030, or 16.4%, in cities and villages in Northern counties. Of the total number of licenses in force in cities and villages, 5,153, or 82%, are at the minimum rate; 116, or 1.8%, at the medium rate, and 1,020, or 16.2%, at the maximum rate. The average number of licenses each granted by cities and villages having the minimum rate is over 2.5 times as great as the average number of licenses each for cities and villages

having the maximum rate. The city of Milwaukee alone, which has the minimum rate, grants more than twice as many saloon licenses as are granted by all cities and villages in the state having the maximum rate for license. Considered by divisions, the proportion of licenses issued at the various rates is as follows: minimum rate, Eastern counties, 94.8% of all licenses in force in cities and villages, Southwestern counties, 62.8%, and Northern counties, 54.3%; medium rate, Eastern counties, .2%, Southwestern counties, 3.8%, Northern counties, 5.9%; maximum rate, Eastern counties, 5%, Southwestern counties, 33.4%; and Northern counties, 39.8%.

Thus it is seen that in the cities and villages of the Eastern counties, the minimum rate for license is the rule prevailing with only very few exceptions. The minimum rate licenses of this division constitute nearly 75% of all minimum rate licenses in all cities and villages of the state. In the cities and villages of the Southwestern counties, the minimum rate licenses are nearly twice as numerous as the maximum rate licenses. In the cities and villages of the Northern counties, the ratio of minimum to maximum rate licenses is nearly 3 to 2. In all divisions, the number of medium rate licenses is comparatively very small.

The total population of cities and villages granting license was 990,031 at the last census. Of this number, 604,884, or 61%, were in the cities and villages of the Eastern counties; 225,032, or 22.7%, in those of the Southwestern counties; and 160,115, or 16.3%, in those of the Northern counties.

The average population per license in the cities and villages granting license was 150 for the cities and villages of the Eastern division counties, 184 for those of the Southwestern division counties, 155 for those of the Northern division counties, and 157.4 for all cities and villages granting license in the state. Of the 296 cities and villages, 80, or 27%, average less than 100 population per license; 143, or 48.3%, average 100 and over but less than 200; 44, or 14.9%, average 200 and over, but less than 300; and 29, or 9.8%, average 300 and over. The proportion of cities and villages averaging more or less than 200 population per license does not vary

materially between the several divisions of counties. A slightly greater proportion in the class averaging less than 200 population per license is found in the Northern counties, but it is probable that this discrepancy grows out of the fact that the population here given is for 1900 and the number of saloon licenses for 1905, when the population of some of these Northern cities and villages was very much greater than at the time of the census. The only other important deviation from uniformity is that the proportion of cities and villages having an average population of less than 100 per license in the Southwestern counties is roughly about one-third less than the proportion in this same class for cities and villages in each of the other divisions. On the whole, therefore, it appears that the foregoing averages in the cities and villages of the several divisions and of the state as a whole are fairly representative.

Analytical summary of Table XV.

Cities and villages having licenses in force.

HEADINGS.	DIVISIONS.			State as a whole.
	Eastern counties.	South- western counties.	Northern counties.	
Total number cities and villages.....	100	127	69	296
Total number of cities.....	45	42	26	113
Total number of villages.....	55	85	43	183
Number of cities and vil. having min. rate.....	83	62	42	187
Number of cities and vil. having med. rate.....	2	8	4	14
Number of cities and vil. having max. rate.....	15	57	23	95
Per cent. of cities and vil. having min. rate.....	83	48.9	61.0	63.2
Per cent. of cities and vil. having med. rate.....	2	6.3	5.8	4.7
Per cent. of cities and vil. having max. rate.....	15	44.8	33.2	32.1
Total number of licenses.....	4,036	1,220	1,033	6,289
Number of licenses at min. rate.....	3,826	766	561	5,153
Number of licenses at med. rate.....	8	47	61	116
Number of licenses at max. rate.....	202	407	411	1,020
Per cent. of licenses at min. rate.....	9.8	62.8	54.3	82.0
Per cent. of licenses at med. rate.....	2	3.8	5.9	1.8
Per cent. of licenses at max. rate.....	5.0	33.4	39.8	16.2
Total population of cities and villages.....	604,884	225,032	160,115	990,031
Average population per license.....	150	184	155	157.4
Cities and villages classified as to average population per license.				
Number having less than 100.....	32	26	22	80
Number having 100 but less than 200.....	43	65	35	143
Number having 200 but less than 300.....	15	21	8	44
Number having 300 or over.....	10	15	4	29
Per cent. having less than 100.....	32.0	20.5	31.9	27.0
Per cent. having 100 but less than 200.....	43.0	51.2	50.7	48.3
Per cent. having 200 but less than 300.....	15.0	16.5	11.6	14.9
Per cent. having 300 or over.....	10.0	11.8	5.8	9.8

TABLE XV.—*Eastern Division Counties.*

Table showing cities and villages granting licenses, the number of licenses, the rate of license, population, and average population per license.

Cities and villages granting license.	No. of licenses.	Rate. Minimum—e. Medium—f. Maximum—g.	Population, 1900.	Population per license.
BROWN CO.—				
Depere, c.....	19	g	4,038	213
Green Bay, c.....	117	e	18,684	159
Wrightstown, v.....	8	e	420	52
CALUMET CO.—				
Chilton, c.....	14	e	1,460	104
Brillion, v.....	11	e	855	77
Hilbert, v.....	6	e	497	83
New Holstein, v.....	9	e	753	84
DODGE CO.—				
Beaver Dam, c.....	32	e	5,128	160
Horicon, c.....	6	e	1,376	229
Juneau, c.....	11	e	891	81
Mayville, c.....	16	e	1,815	118
Fox Lake, v.....	7	e	890	127
Lomira, v.....	7	e	492	70
Lowell, v.....	3	e	333	111
Randolph, v.....	4	e	738	184
Reeseville, v.....	6	e	393	65
Theresa, v.....	6	e	355	69
Neosho, v.....	5	e	348	70
DOOR CO.—				
Sturgeon Bay, c.....	23	e	3,372	147
FOND DU LAC CO.—				
Fond du Lac, c.....	100	e	15,110	151
Waupun, c.....	8	e	3,185	398
Ripon, c.....	12	g	3,818	318
Brandon, v.....	2	g	663	331
Cambellsport, v.....	8	e	635	80
Oakfield, v.....	3	e	648	212
N. Fond du Lac, v.....	13	e	1,100	85
JEFFERSON CO.—				
Jefferson, c.....	21	e	2,584	123
Ft. Atkinson, c.....	8	g	3,043	380
Watertown, c.....	57	e	8,437	148
Johnson's Creek, v.....	5	e	623	125
Lake Mills, v.....	4	g	1,387	347
Palmyra, v.....	4	f	716	179
Waterloo, v.....	11	e	1,137	103
KENOSHA CO.—				
Kenosha, c.....	63	g	11,606	184
KEWAUNEE CO.—				
Algoma, c.....	15	e	1,738	116
Kewaunee, c.....	13	e	1,773	136
MANITOWOC CO.—				
Manitowoc, c.....	81	e	11,786	146
Two Rivers, c.....	20	e	3,784	189
Reedsville, v.....	11	e	428	39
Kiel, v.....	10	e	924	92
MARINETTE CO.—				
Marinette, c.....	52	g	16,195	311
Peshigo, c.....	14	e	2,318	165
Coleman, v.....	8	e	423	53
MILWAUKEE CO.—				
Milwaukee, c.....	2,100	e	285,315	136
S. Milwaukee, c.....	43	e	3,392	79
Wauwatosa, c.....	8	e	2,842	355
N. Milwaukee, v.....	13	e	1,049	81
E. Milwaukee, v.....	6	e	504	84
Cudahy, v.....	29	e	1,396	47
W. Allis, v.....	31	e	2,494	81
Whitefish Bay, v.....	2	e	512	256

TABLE XV.—*Eastern Division Counties—Continued.*

Cities and villages granting license.	No. of licenses.	Rate. Minimum—e. Medium—f. Maximum—g.	Population, 1900.	Population per license.
OCONTO CO.—				
Oconto, c.	37	e	5,846	152
Oconto Falls, v.	8	e	798	99
Gillette, v.	7	e	415	59
OUTAGAMIE CO.—				
Appleton, c.	74	e	15,085	240
Kaukauna, c.	54	e	5,115	150
Seymour, c.	11	e	1,026	93
Black Creek, v.	5	e	515	109
Hortonville, v.	10	e	913	91
Little Chute, v.	10	e	944	94
Shiocton, v.	4	f	492	123
Welcome, v.	4	e	426	106
OZAUKEE CO.—				
Cedarburg, c.	17	e	1,626	96
Port Washington, c.	30	e	3,010	100
Grafton, v.	6	e	478	79
RACINE CO.—				
Burlington, c.	18	e	2,526	140
Racine, c.	137	e	29,102	213
Union Grove, v.	2	g	520	260
SHAWANO CO.—				
Shawano, c.	17	e	1,863	110
Aniwa, v.	5	e	398	80
Birmamwood, v.	7	e	475	68
Mattoon, v.	7	e	839	120
Tigerton, v.	6	e	723	120
Wittenberg, v.	4	g	798	199
SHEBOYGAN CO.—				
Plymouth, c.	17	e	2,257	132
Sheboygan, c.	97	e	22,962	237
Sheboygan Falls, v.	7	e	1,301	186
Cedar Grove, v.	3	e	327	109
Elkhart Lake, v.	8	e	464	58
WALWORTH CO.—				
Delavan, c.	6	g	2,244	374
Elkhorn, c.	6	g	1,731	288
Whitewater, c.	11	g	3,405	309
Eas. Troy, v.	4	e	613	153
Genoa Junction, v.	3	g	642	214
Sharon, v.	4	g	945	236
WASHINGTON CO.—				
Hartford, c.	15	e	1,632	109
West Bend, c.	19	e	2,119	113
Kewaskum, v.	12	e	679	57
Schlesingererville, v.	4	e	549	137
WAUKESHA CO.—				
Oconomowoc, c.	17	e	2,880	169
Waukesha, c.	44	e	7,419	168
Eagle, v.	3	e	324	108
Hartland, v.	3	e	629	209
Menomonee Falls, v.	10	e	687	69
Pewaukee, v.	10	e	714	71
WINNEBAGO CO.—				
Menasha, c.	23	e	5,589	243
Neenah, c.	27	e	5,954	350
Oshkosh, c.	125	e	28,234	226
Omro, v.	6	g	1,358	226
Winneconne, v.	7	e	1,042	149
Totals	4,096		604,884	150
	3,826	e		
	8	f		
	202	g		

TABLE XV.—*Southwestern Division Counties.*

Table showing cities and villages granting licenses, the number of licenses, the rate of license, population and average population per license.

Cities and villages granting licenses.	No. of licenses.	Rate. Minimum—e. Medium—f. Maximum—g.	Population 1900.	Population per license.
BUFFALO CO.—				
Alma, c.....	11	e	1,201	109
Buffalo, c.....	1	e	254	254
Mountain City, c.....	9	f	1,031	115
Mondovi, c.....	6	g	1,208	201
COLUMBIA CO.—				
Columbus, c.....	14	e	2,349	168
Kilbourn, c.....	10	e	1,134	113
Portage, c.....	26	e	5,459	210
Cambria, v.....	3	e	561	187
Fall River, v.....	4	e	447	112
Lodi, v.....	4	e	1,063	267
Rio, v.....	8	e	479	60
CRAWFORD CO.—				
Prairie du Chien, c.....	21	e	3,232	154
Bel Center, v.....	3	e	243	81
Guys Mills, v.....	3	e	445	148
Lynxville, v.....	2	f	322	161
Soldiers Grove, v.....	7	e	680	97
Stuben, v.....	2	e	338	169
Wauzeka, v.....	5	e	471	94
DANE CO.—				
Madison, c.....	87	e	19,164	221
Stoughton, c.....	17	e	3,431	202
Bellville, v.....	3	e	385	128
Black Earth, v.....	3	e	466	155
Cambridge, v.....	5	e	628	125
Dane, v.....	5	e	280	56
Deerfield, v.....	5	e	515	103
Mezomanie, v.....	4	e	302	225
Oregon, v.....	4	e	697	174
Sun Prairie, v.....	10	f	938	94
Wausaukee, v.....	6	e	443	74
DUNN CO.—				
Menomonie, c.....	15	g	5,655	377
EAU CLAIRE CO.—				
Altoona, c.....	4	e	721	180
Augusta, c.....	4	e	1,256	314
Eau Claire, c.....	87	e	17,517	201
Fairchild, v.....	3	f	947	316
GRANT CO.—				
Hoschobal, c.....	5	e	1,637	327
Platteville, c.....	8	e	3,340	417
Lancaster, c.....	7	e	2,403	343
Bloomington, v.....	4	e	611	153
Cuba City, v.....	3	f	636	212
Potosi, v.....	4	e	434	108
Pennimore, v.....	5	e	1,035	207
Montfort, v.....	2	e	627	314
Cassville, v.....	6	e	979	163
Hazel Green, v.....	3	e	442	147
Muscoda, v.....	9	e	743	82
GREEN CO.—				
Brookhead, c.....	10	f	1,584	158
Monroe, c.....	24	e	3,927	163
Monticello, v.....	6	e	558	93
New Glarus, v.....	9	e	720	80
GREEN LAKE CO.—				
Berlin, c.....	19	e	4,489	236
Dartford, v.....	4	e	450	112
Markesan, v.....	5	e	708	141
Princeton, v.....	14	e	1,202	86

TABLE XV.—*Southwestern Division Counties—Continued.*

Cities and villages granting licenses.	No. of licenses.	Rate. Minimum—e. Medium—f. Maximum—g.	Population, 1900.	Population per license.
IOWA CO.—				
Dodgeville, c.....	6	g	1,865	311
Mineral Point, c.....	12	e	2,911	250
Highland, v.....	6	e	913	152
Linden, v.....	3	e	543	181
Ridgeway, v.....	4	e	412	103
Cobb, v.....	2	g	310	155
JUNEAU CO.—				
Kiroy, c.....	7	g	1,685	241
Mauston, c.....	15	e	1,718	114
New Lisbon, c.....	6	e	1,014	169
Camp Douglas, v.....	4	e	432	108
Lynden Station, v.....	6	e	334	56
Wonewoc, v.....	4	g	311	203
LA CROSSE CO.—				
La Crosse, c.....	153	e	23,895	189
Onalaska, c.....	4	e	1,368	342
Bangor, v.....	6	e	633	105
West Salem, v.....	4	g	725	181
LA FAYETTE CO.—				
Darlington, c.....	8	g	1,808	228
Shullsburg, c.....	8	e	1,250	156
Belmont, v.....	3	f	509	169
Blanchardville, v.....	6	g	573	95
Benton, v.....	3	g	546	182
Gratiot, v.....	7	f	335	48
MARQUETTE CO.—				
Montello, v.....	10	e	982	98
Westfield, v.....	8	e	749	93
MONROE CO.—				
Sparta, c.....	9	g	3,555	396
Tomah, c.....	14	e	2,310	203
Cashton, v.....	5	g	510	102
Kendall, v.....	3	e	460	153
Norwalk, v.....	5	e	357	71
Wilton, v.....	7	e	400	57
PEPIN CO.—				
Durand, c.....	15	e	1,458	97
Pepin, v.....	3	e	407	136
Stockholm, v.....	1	g	241	241
PIERCE CO.—				
Prescott, c.....	8	g	1,002	125
River Falls, c.....	6	g	2,066	335
Ellsworth, v.....	9	g	1,052	117
Maiden Rock, v.....	1	g	304	304
Spring Valley, v.....	9	g	1,021	113
RICHLAND CO.—				
Cazenovia, v.....	3	e	422	141
Vicla, v.....	3	g	432	144
Lone Rock, v.....	6	e	512	85
ROCK CO.—				
Janesville, c.....	50	g	13,185	261
Edgerton, c.....	9	g	2,192	244
Beloit, c.....	30	g	10,436	348
Orfordville, v.....	3	g	540	146
Clinton, v.....	3	g	371	290
ST. CROIX CO.—				
Hudson, c.....	17	e	3,239	192
New Richmond, c.....	9	g	1,631	181
Glenwood, c.....	3	g	1,789	596
Baldwin, v.....	6	g	631	105
Hammond, v.....	4	g	404	101

TABLE XV.—*Southwestern Division Counties—Continued.*

Cities and villages granting licenses.	No. of licenses.	Rate. Minimum—e. Medium—f. Maximum—g.	Population, 1900.	Population per license.
SAUK CO.—				
Baraboo, c	16	a	5,751	359
Reeseburg, c	12	g	2,225	185
Ableman, v	4	e	430	107
La Valle, v	3	g	388	128
Prairie du Sac, v	4	e	656	164
Sauk City, v	8	e	810	101
Spring Green, v	6	e	621	103
TREMPEALEAU CO.—				
Arcadia, v	15	g	1,273	85
Blair, v	4	g	438	109
Eleva, v	3	g	370	123
Galesville, v	6	g	862	144
Independence, v	10	g	630	63
Osseo, v	4	g	472	118
Whitehall, v	6	g	600	100
Trempealeau, v	1	e	609	101
VERNON CO.—				
Stoddard, v	5	e	380	76
De Soto, v	3	e	387	129
Hillsboro, v	3	g	785	262
WAUSHARA CO.—				
Hancock, v	3	g	513	171
Plainfield, v	5	g	728	146
Red Granite, v	4	e	372	93
Wautoma, v	7	g	624	89
Wild Rose, v	4	e	390	98
Totals	1,220	.....	225,032	184
	766	e		
	47	f		
	407	g		

TABLE XV.—*Northern Division Counties.*

Showing cities and villages granting licenses, number of licenses, rate of licenses, population and average population per license

Cities and villages granting licenses.	No. of licenses.	Rate. Minimum—e. Medium—f. Maximum—g.	Population, 1900.	Population per license.
ASHLAND CO.—				
Ashland, c.....	90	g	13,074	145
Butternut, v.....	9	e	650	72
BARRON CO.—				
Cumberland, c.....	9	g	1,828	147
Chetek, c.....	5	g	531	106
Barron, c.....	5	g	1,493	299
Rice Lake, c.....	16	g	3,002	187
Cameron, v.....	3	g	394	131
Turtle Lake, v.....	5	f	326	65
BAYFIELD CO.—				
Washburn, c.....	19	g	5,784	340
BURNETT CO.—				
Grantsburg, v.....	5	g	612	122
CHIPPEWA CO.—				
Chippewa Falls, c.....	49	f	8,094	165
Stanley, c.....	10	g	2,387	239
Auburn, v.....	3	e	492	164
Bloomer, v.....	11	e	811	74
Boyd, v.....	6	e	674	112
Cadott, v.....	8	e	840	105
CLARK CO.—				
Greenwood, c.....	3	g	708	256
Nellsville, c.....	15	e	2,104	140
Colby, c.....	8	e	667	83
Abbottsford, v.....	10	e	443	44
Dorchester, v.....	8	e	631	79
Loyal, v.....	9	e	645	72
Thorp, v.....	8	e	838	105
Withee, v.....	3	g	290	97
DOUGLAS CO.—				
Superior, c.....	140	g	31,091	222
RUSK CO.—				
Bruce, v.....	8	e	208	26
Ladysmith, v.....	8	g	560	70
JACKSON CO.—				
Black River Falls, c.....	9	g	1,938	215
Alma Center, v.....	4	f	458	114
Merrillan, v.....	3	g	739	246
LANGLADE CO.—				
Antigo, c.....	31	g	5,145	166
LINCOLN CO.—				
Merrill, c.....	40	e	8,537	213
Tomahawk, c.....	33	e	2,291	70
MARATHON CO.—				
Wausau, c.....	62	e	12,354	199
Athens, v.....	8	e	685	86
Brokaw, v.....	1	e	386	386
Edgar, v.....	12	e	478	40
Marathon, v.....	9	e	528	59
Mosinee, v.....	5	e	657	131
Spencer, v.....	3	e	409	136
Schofield, v.....	3	e	783	261
ONEIDA CO.—				
Rhineland, c.....	41	e	4,998	122

TABLE XV.—*Northern Division Counties*—Continued.

Cities and villages granting licenses.	No. of licenses.	Rate. Minimum—e. Medium—f. Maximum—g.	Population, 1900.	Population per license.
POLK CO.—				
Amery, v.	5	g	905	181
Centuria, v.	3	e	173	57
Clear Lake, v.	3	f	527	176
Frederic, v.	6	e	113	32
Osceola, v.	3	g	466	155
St. Croix Falls, v.	2	g	622	311
PORTAGE CO.—				
Stevens Point, c.	54	e	9,524	176
Amherst, v.	4	g	558	140
PRICE CO.—				
Phillips, c.	15	g	1,820	121
Kennan, v.	3	e	143	48
Park Falls, v.	13	e	540	41
Prentice, v.	8	e	939	117
TAYLOR CO.—				
Medford, c.	14	g	1,758	125
Rib Lake, v.	8	e	1,126	141
WASHBURN CO.—				
Spooner, v.	9	e	1,142	127
WAUPACA CO.—				
Clintonville, c.	12	e	1,653	138
New London, c.	17	e	2,742	161
Waupaca, c.	9	g	2,912	324
Embarrass, v.	2	e	270	135
Fremont, v.	4	e	263	66
Manawa, v.	7	e	714	106
Marion, v.	7	e	602	86
Weyauwega, v.	8	e	911	114
WOOD CO.—				
Marshfield, c.	43	e	5,040	117
Grand Rapids, c.	26	e	4,493	173
Auburndale, v.	3	e	241	80
Nekoosa, v.	8	e	745	93
Totals	1,031	.....	163,115	155
	541	e		
	61	f		
	411	g		

CITIES AND VILLAGES HAVING VOTED "NO LICENSE."

The total number of cities and villages in the state having voted "No License" is 21, of which 5 are cities and 16 are villages. The total population of these 21 cities and villages in 1900 was 17,738. The distribution of these "no license" cities and villages by divisions is as follows: Eastern counties, 1 city, 1 village, total population, 3,298; Southwestern counties, 3 cities and 14 villages, total population, 13,606; Northern counties, 1 city and 1 village, total population, 834. The population of "no license" cities and villages is distributed

by divisions in the following proportions: Eastern, 18.6%; Southwestern, 76.7%; Northern, 4.7%.

TABLE XVI.—*Analytical summary.*
Cities and villages having voted "No License."

Headings.	Divisions.			State as a whole.
	Eastern.	Southwest'n	Northern.	
Number of cities and villages.....	2	17	2	21
Number of cities.....	1	3	1	5
Number of villages.....	1	14	1	16
Population of cities and villages..	3,208	13,636	834	17,738

Cities and villages.	Population 1900.
Eastern Division Counties:	
Walworth County—	
Lake Geneva, c.....	2,585
Walworth, v.....	713
Total.....	3,298
Southwestern Division Counties:	
Columbia County—	
Pardeeville, v.....	788
Povonette, v.....	633
Dane County—	
De Forest, v.....	424
Mt. Horeb, v.....	864
Green County—	
Albany, v.....	797
Iowa County—	
Bewey, v.....	340
Lafayette County—	
Argyle, v.....	612
Richland County—	
Richland Center, c.....	2,321
Rock County—	
Evansville, c.....	1,864
St. Croix County—	
Star Prairie, v.....	344
Sauk County—	
Merrimac, v.....	330
North Freedom, v.....	485
Vernon County—	
Viroqua, c.....	1,950
La Farge, v.....	488
Ontario, v.....	389
Readstown, v.....	403
Westby, v.....	524
Total.....	13,606
Northern Division Counties:	
Marathon County—	
McMillan, v.....	200
Wood County—	
Pittsville, c.....	634
Total.....	834

VILLAGES HAVING NO APPLICATION.

There were no cities in the state which reported no licenses in force because of no applications. The total number of villages in this class is 5, all, but one, located in the Northern division counties. In two cases, the reports state that the maximum rate for license had been voted and in two more that the absence was due to a strong anti-saloon sentiment. The total population of these 5 villages in 1900 was about 2,267, but it has no doubt considerably increased since that time.

TABLE XVII.—*Villages having no applications for licenses.*

	Population, 1900.
Eastern Division Counties.....	None.
Southwestern Division Counties— Dunn County, Colfax, v.....	544
Northern Division Counties— Barron Count.—Prairie Farm, v.....	400
Waupaca County—Iola, v.....	558
Waupaca County—Scandinavia, v.....	320
Wood County—Port Edwards, v.....	445
Five villages.....	2,267

TOWNS HAVING LICENSES IN FORCE.

Table XVIII and Analytical Summary.

The total number of towns reporting licenses in force is 500. Of this number, 224, or 44.8%, are in the Eastern division counties. 103, or 20.6%, in the Southwestern division counties, and 173, or 34.6%, in the Northern. Of the total number of towns granting licenses, 452, or 90.4%, have the minimum rate, 24, or 4.8%, have the medium rate, and a like number have the maximum rate. The proportion of towns having the minimum rate is about 3% higher for the towns in the Eastern and Northern divisions than the average for the state as a whole, while the proportion for minimum rate towns in the Southwestern counties is 78.6% of all licensing towns, or about 12% less than for the state as a whole.

The total number of licenses in force in 500 towns granting license is 2,443, an average of nearly 5 licenses per town. Of the total number of licenses in towns, 1,414, or 58%, are in towns of the Eastern division counties; 311, or 12.7%, in Southwestern counties, and 718, or 29.3%, in Northern counties. Of the total number of licenses in force in towns, 2,276, or 93.2%, are at the minimum rate; 87, or 3.6% at the medium rate; and 80, or 3.2%, at the maximum rate. The number of low rate licenses in Eastern division towns is 59.4% of the total number of low rate licenses in all towns, and 55.3% of all towns at whatever rate. The proportion of minimum rate licenses in the Eastern and Northern division towns is slightly greater than for the state as a whole, while in the Southwestern division it is 13.4% less, being but 79.8% of all licenses in towns in this division.

The total population, in 1900, of licensing towns was about 551,923. Of this total population, 315,499, or 57.2%, were in towns in the Eastern counties; 100,203, or 18.1%, in towns of the Southwestern division; and 136,221, or 24.7%, in towns of the Northern division.

The average population per license in the 500 licensing towns was about 226. In the licensing towns of the Eastern counties, the average was 223 population per license, or nearly the same as for all licensing towns. The average for the licensing towns of the Southwestern counties, was 322 per license, or about 42% more than for the state as a whole. The average population per license in the licensing towns of the Northern counties figures out at 188, but this figure is, no doubt, very misleading owing to the rapid growth of the population which has taken place during the years since the last census. Some instances were noted in which the vote cast in some of these towns at the last general election exceeded the total population as reported in the last census. There can be no question but that the average population per license in the licensing towns of this division should be much higher than here appears. Just how much this average actually is, it is, of course, impossible to determine. It is presumably not much,

if any, lower than that for the licensing towns of the Eastern division counties.

Of the total number of towns granting license within their own corporate limits, 166, or 33.2%, have on or within their boundaries incorporated cities or villages in which licenses are in force. These 166 towns are distributed numerically as follows: Eastern division licensing towns, 82 towns; Southwestern division, 33 towns; Northern division, 51 towns. The proportion which the number of licensing towns, also having on or within their boundaries cities or villages granting license, bears to the whole number of licensing towns in the several divisions is as follows: Eastern, 36.6% of all licensing towns; Southwestern, 32.1%; and Northern, 29.5%.

ANALYTICAL SUMMARY OF TABLE XVIII

Towns having license in force.

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties.	Northern counties.	
Total number of towns	224	103	173	500
Number towns having min. rate....	209	81	162	452
Number towns having med. rate....	6	12	6	24
Number towns having max. rate....	9	10	5	24
Per cent. towns having min. rate..	93.3	78.6	93.6	90.4
Per cent. towns having med. rate..	2.7	11.7	3.5	4.8
Per cent. towns having max. rate..	4.0	9.7	2.9	4.8
Total number of licenses	1,414	311	718	2,443
Number of licenses at min. rate....	1,352	248	676	2,276
Number licenses at med. rate....	25	38	24	87
Number licenses at max. rate....	37	25	18	80
Per cent. licenses at min. rate....	95.6	79.8	94.2	93.2
Per cent. licenses at med. rate....	1.8	12.2	3.6	3.6
Per cent. licenses at max. rate....	2.6	8.0	2.2	3.2
Total population	315,499	103,203	136,221	551,923
Average population per license	223	322	188	226
Number of towns having licensing city or village on or within their boundaries	82	33	51	166
Per cent. of towns having licensing city or village on or within their boundaries	36.6	32.1	29.5	33.2

TABLE XVIII—EASTERN DIVISION COUNTIES.

Table showing by counties the number of towns granting licenses, their population, total number of licenses in force, the average population per license; the number of towns granting licenses at minimum, medium and maximum rates and the number of licenses at each rate; and the number of licensing towns having a licensing city or village on or within their boundaries.

Name of county.	No. of towns.	Total population of licensing towns.	Total No. of licenses.	Average population per license.	Minimum rate.		Medium rate.		Maximum rate.		No. of licensing towns having licensing city or village.
					No. towns.	No. licenses.	No. towns.	No. licenses.	No. towns.	No. licenses.	
Brown	15	18,686	89	210	14	86	1	3	.....	.....	3
Calumet	8	12,163	44	276	8	44	.....	.....	.....	.....	6
Dodge	16	20,261	54	375	16	54	.....	.....	.....	.....	8
Door	10	11,021	37	296	8	30	.....	.....	2	7	2
Rond du Lac ..	12	13,990	70	200	11	69	.....	.....	1	1	5
Jefferson	12	14,662	29	505	11	25	1	4	.....	.....	5
Kenosha	6	8,132	27	301	1	2	1	7	4	18	2
Keweenaw	10	13,701	58	236	10	58	.....	.....	.....	.....	3
Manitowoc	1	26,276	125	222	17	120	.....	.....	1	5	6
Marquette	7	10,750	76	142	7	76	.....	.....	.....	.....	3
Milwaukee	7	32,543	245	133	7	245	.....	.....	.....	.....	5
Oconto	12	10,286	57	180	12	57	.....	.....	.....	.....	1
Outagamie	10	13,621	42	324	10	42	.....	.....	.....	.....	5
Ozaukee	7	11,249	60	187	7	60	.....	.....	.....	.....	2
Racine	7	11,536	46	257	6	39	.....	.....	1	6	3
Shawano	16	16,076	57	282	16	57	.....	.....	.....	.....	6
Sheboygan	14	21,636	83	261	14	83	.....	.....	.....	.....	.....
Walworth	6	6,870	24	286	3	13	3	11	.....	.....	3
Washington	12	17,759	89	200	12	89	.....	.....	.....	.....	4
Waukesha	13	19,510	93	210	13	93	.....	.....	.....	.....	5
Winnebago	6	5,792	1	579	6	10	.....	.....	.....	.....	4
Totals	103	100,203	311	322	31	248	12	38	10	25	33

SOUTHWESTERN DIVISION COUNTIES.

Table showing by counties the number of towns granting licenses, their population, total number of licenses in force, the average population per license; the number of towns granting licenses at minimum, medium and maximum rates and the number of licenses at each rate; and the number of licensing towns having a licensing city or village on or within their boundaries.

Name of county	No. of towns.	Total population of licensing towns.	Total No. of licenses.	Average population per license.	Minimum rate.		Medium rate.		Maximum rate.		No. of licensing towns having licensing city or village.
					No. towns.	No. licenses.	No. towns.	No. licenses.	No. towns.	No. licenses.	
Adams	1	588	2	294	.....	.....	.....	.....	1	2	.....
Buffalo	9	6,821	22	310	.....	18	1	4	.....	.....	6
Columbia	4	4,142	7	592	4	7	.....	.....	.....	.....	1
Crawford	4	3,653	9	406	2	3	2	6	.....	.....	4
Dane	10	11,951	45	268	8	37	1	2	1	6	3
Dunn	4	3,656	9	406	2	3	1	4	1	2	1
Eau Claire	1	1,731	6	288	1	6	.....	.....	.....	.....	.....
Grant	10	8,987	36	257	9	34	1	2	.....	.....	2
Green	2	1,859	3	615	2	3	.....	.....	.....	.....	2
Green Lake	3	2,643	6	440	3	6	.....	.....	.....	.....	1
Iowa	3	4,445	7	635	2	5	.....	.....	1	2	1
Juneau	4	4,793	14	342	2	10	2	4	.....	.....	1
La Crosse	8	7,832	39	201	6	32	.....	.....	2	7	3
La Fayette	3	2,731	4	683	2	2	1	2	.....	.....	1
Marquette	5	3,027	11	275	5	11	.....	.....	.....	.....	1
Monroe	4	4,120	8	515	3	7	.....	.....	1	1	1
O'epin	1	1,142	3	381	1	3	.....	.....	.....	.....	.....
Pierce	2	2,443	8	306	1	4	1	4	.....	.....	.....
Richland	1	1,140	9	124	1	9	.....	.....	.....	.....	.....
Rock	2	2,307	5	461	1	1	1	4	.....	.....	1
St. Croix	7	7,088	17	423	5	13	.....	.....	2	4	1
Sauk	6	6,121	19	322	6	19	.....	.....	.....	.....	1
Trempealeu	1	495	4	124	1	4	.....	.....	.....	.....	.....
Vernon	3	2,795	3	932	2	2	.....	.....	1	1	1
Waushara	5	3,693	15	246	4	9	1	6	.....	.....	1
Totals	103	100,203	311	322	81	248	12	38	10	25	33

NORTHERN DIVISION COUNTIES.

Table showing by counties the number of towns granting licenses, their population, total number of licenses in force, the average population per license; the number of towns granting licenses at minimum, medium and maximum rates and the number of licenses at each rate; and the number of licensing towns having a licensing city or village on or within their boundaries.

Name of county.	No. of towns.	Total population of licensing towns.	Total No. of licenses.	Average population per license.	Minimum rate.		Medium rate.		Maximum rate.		No. of licensing towns having licensing city or village.
					No. towns.	No. licenses.	No. towns.	No. licenses.	No. towns.	No. licenses.	
Ashland	4	4,272	41	104	4	41	.....	.....	.....	.....	1
Barron	5	3,724	40	187	4	171	1	3	.....	.....	2
Bayfield	5	4,788	46	104	2	30	1	7	2	9	.....
Burnette .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chippewa	8	9,806	18	550	8	18	.....	.....	.....	.....	6
Clark	12	9,826	29	187	11	22	1	3	.....	.....	5
Douglas	3	4,841	44	110	3	44	.....	.....	.....	.....	2
Flora	2	2,652	13	187	2	14	.....	.....	.....	.....	.....
Forest	2	742	16	46	2	14	.....	.....	1	2	.....
Rusk	7	2,499	19	131	7	19	.....	.....	.....	.....	2
Iron	6	6,616	76	87	4	76	.....	.....	.....	.....	.....
Jackson	3	1,629	7	235	3	7	.....	.....	.....	.....	1
Langlade	10	5,341	30	179	10	30	.....	.....	.....	.....	2
Lincoln	10	4,879	34	143	10	34	.....	.....	.....	.....	4
Marathon	35	25,501	93	274	35	93	.....	.....	.....	.....	12
Oneida	6	3,501	21	119	6	21	.....	.....	.....	.....	1
Polk	5	2,727	10	272	2	5	2	3	1	2	1
Portage	8	11,446	43	266	7	28	.....	.....	1	5	.....
Price	4	1,884	12	157	4	12	.....	.....	.....	.....	1
Sawyer	1	2,72	13	209	1	13	.....	.....	.....	.....	.....
Taylor	10	6,578	36	189	9	27	1	8	.....	.....	1
Vilas	2	2,208	26	88	2	26	.....	.....	.....	.....	.....
Washburn	7	3,798	20	140	7	20	.....	.....	.....	.....	.....
Waupaca	5	6,229	13	374	5	14	.....	.....	.....	.....	1
Wood	14	10,282	41	251	14	41	.....	.....	.....	.....	5
Totals	173	126,221	718	188	162	676	6	24	5	18	51

POPULATION AND AREAS IN TOWNS.

The total population (1900) in all towns reporting as to license was 1,049,475. This represents nearly the entire population of the state outside of incorporated cities and villages. Of this total population, 392,463 are in the towns of the Eastern division counties; 413,529 are in towns of the Southwestern division counties; and 243,483 are in the Northern counties. Of this total population of towns, 551,923, or 52.6%, are in the 500 towns granting license; 206,785, or 19.7%, are in the 223 towns which have voted "No license;" and 290,767, or 27.7%, are in the 376 towns which have no application for license. The average population for licensing towns is therefore about 1,104, for "No license" towns about 928, and for towns having no applications about 774.

Considered by divisions, it is seen that in the Eastern counties, 315,499, or 80.4% of the total population outside of cities and villages is in the towns having license in force. Only 34,333, or 8.7%, are in "No license" towns and only 42,631, or 10.9%, are in towns having no application for license. In the Southwestern counties, on the other hand, 100,203, or only 24.3% of the population outside of cities and villages is in towns granting license. The towns voting "No license" in these counties embrace 127,339, or 30.8% of the total population of all towns, while the towns having no applications embrace 185,987, or 44.9% of the total population of all towns in these counties. In the northern counties the proportions in each class of towns stand approximately half way between those for the Eastern and Southwestern counties and follow very closely the average results for the state as a whole.

The total area of towns as estimated from the recorded plates is 54,121 square miles. Of this total area, 11,679 square miles, or 21.3%, is in towns of the Eastern division counties, 17,208 square miles, or 31.8%, in those of the Southwestern, and 25, 234, or 46.9%, in those of the Northern. Divided as to license the total areas of towns stand as follows: licensing towns, 26,650 square miles, or 49.3% of the total; "no license" towns, 10,983 square miles, or 20.2% of the total; and towns having no application, 16,488 square miles, or 30.5% of the total. The proportions of the areas in each class of towns with reference to licenses stand in about the same relations for the several divisions as the corresponding proportions for population already given.

The average population for all towns reporting, based on those estimates, is about 19.4 per square mile. In the Eastern division towns, the average is highest, being 33.6 per square mile. In the Southwestern division towns it is 24.1 per square mile, and in those of the Northern division, only 9.6. These estimates, of course, are open to the criticism already repeated that the population in some of these towns, particularly in the last named division, is now considerably greater than reported in the census upon which these estimates are based.

Considered with reference to license, it appears that for all licensing towns the average population per square mile is 20.7, for "No license" towns 18.8, and for towns having no applications 17.6.

In the towns of the Eastern division this difference in density of population is most marked, standing, for licensing towns, at 35.9 per square mile, for "No license" towns, at 25.1 per square mile, and for the towns having no application for license, at 27.7 per square mile. In the towns of the South-western division, the average population per square mile for licensing towns is 25.2, for "no license" towns it is 25.9, and for those having no application for license it is 22.5. For the Northern division towns the average population per square mile can hardly be considered of significance in this connection. The same relation, however, is here as observable between the averages for the several classes of towns as for the state as a whole, the average population per square mile ranging 9.8 for licensing towns through 9.6 for "No license" towns, to 9.3 for the towns having no application for license. In these townships of the northern part of the state, the average density of population is not of itself significant, much depending on whether the population of these towns whose areas range from 36 to 2,720 square miles is scattered or centralized.

TABLE XIX.—*Analytical summary.*

Population and Areas of License, "No License" and No application towns.

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties.	Northern counties.	
Total population, all towns.....	392,463	413,529	243,483	1,049,475
Population of licensing towns.....	315,499	100,203	136,221	551,923
Population of "No license" towns.....	34,333	127,339	45,113	206,785
Population of No application towns.....	42,631	185,987	62,149	290,767
Per cent. of population in licensing towns.....	80.4	24.3	55.8	52.6
Per cent. of pop. in "No license" towns.....	8.7	30.8	18.5	19.7
Per cent. of pop. in No application towns.....	10.9	44.9	25.7	27.7
Total areas in square miles, all towns.....	11,679	17,208	25,234	54,121
Areas of licensing towns.....	8,769	4,003	13,878	26,650
Areas of "No license" towns.....	1,370	4,915	4,698	10,983
Areas of No application towns.....	1,540	8,290	6,658	16,488
Per cent. of area in licensing towns.....	75.1	23.2	55.0	49.3
Per cent. of area in "No license" towns.....	11.7	28.6	18.6	20.2
Per cent. of area in No application towns.....	13.2	48.2	26.4	30.5
Average population per sq. mile, all towns.....	33.6	24.1	9.6	19.4
Average pop. per sq. mi., licensing towns.....	35.9	25.2	9.8	20.7
Av. pop. per sq. mi., "No license" towns.....	25.1	25.9	9.6	18.8
Av. pop. per sq. m., No application towns.....	27.7	22.5	9.3	17.6

TABLE XIX—*Eastern division counties.*

Classification of population, area and density of population, showing by counties the total population and the per cent. of population, and the total area and population per square mile of all towns classified as follows: Towns granting license, towns having voted "No license," and towns having no application for license.

NAME OF COUNTY.	TOTAL POPULATION.			PER CENT. OF POPULATION.			TOTAL AREA—SQUARE MILES.			AVERAGE POPULATION PER SQUARE MILE.			
	In towns granting license.	In towns having voted "No License."	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	In towns granting license.	In towns having voted "No License."	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	
Brown	18,683	3,992	22,675	80.5	17.2	2.3	375	121	506.5	49.8	32.9	72.0	46.7
Calumet	12,163	1,350	13,513	90.0	10.0	10.0	281	32	313	43.3	42.2	82.8	43.2
Dodge	20,361	3,223	23,584	67.8	10.8	21.4	560	108	668	36.2	19.9	52.8	34.7
Door	11,021	2,048	13,069	77.6	14.4	8.0	375	61	436	29.9	33.6	63.5	30.2
Fond du Lac	13,990	5,874	19,864	57.2	23.9	18.9	894	174	1,068	35.3	33.7	69.0	34.6
Jefferson	11,662	553	12,215	81.2	3.1	15.7	415	18	433	40.3	30.8	71.1	35.5
Kenosha	8,132	1,939	10,071	80.5	19.5	19.5	201	72	273	40.3	27.4	67.7	37.0
Kewaunee	13,101	1,138	14,239	100.0	9.5	9.5	340	40	380	40.3	40.3	80.6	40.3
Manitowoc	25,276	1,896	27,172	100.0	9.5	9.5	1,036	216	1,252	43.2	10.4	53.6	43.2
Marquette	32,543	2,898	35,441	90.5	7.7	21.6	801	108	909	118.0	2.1	120.1	118.0
Milwaukee	10,266	282	10,548	76.7	7.4	25.0	323	72	395	42.2	20.8	63.0	35.5
Oconto	13,621	1,498	15,119	67.6	7.4	25.0	228	72	300	49.3	27.2	76.5	49.3
Outagamie	11,249	1,950	13,199	100.0	14.5	10.6	282	72	354	44.0	34.8	78.8	40.4
Ozaukee	16,076	2,163	18,239	77.4	12.0	10.6	627	72	700	25.7	27.2	52.9	24.0
Racine	21,636	1,388	23,024	93.9	6.1	6.1	474	36	510	45.7	31.1	76.8	45.2
Shawano	6,870	2,208	9,078	41.8	13.4	44.8	214	71	285	32.1	31.1	63.2	29.0
Sheboygan	17,739	1,015	18,754	86.4	4.5	9.1	463	36	500	43.8	28.2	72.0	39.3
Washington	19,510	2,031	21,541	86.4	4.5	9.1	468	36	505	41.7	28.2	70.0	39.3
Waushara	5,792	4,170	9,962	36.2	29.8	34.0	123	137	260	44.8	34.8	69.6	37.5
Winnebago	315,499	34,333	349,832	80.4	8.7	10.9	8,760	1,370	10,130	35.9	25.1	60.2	33.6
Totals													

TABLE XIX.—*Southeastern division counties.*

Classification of population, area and density of population, showing by counties the total population and per cent. of population and the total areas and population per square mile of all towns, classified as follows: Towns granting license; towns having voted "No License;" and towns having no application for license.

NAME OF COUNTY.	TOTAL POPULATION.			PER CENT OF POPULATION.			TOTAL AREAS—SQUARE MILES.			AVERAGE POPULATION PER SQUARE MILE.			
	In towns grant-ing license.	In towns having no ap-plica-tion.	In all towns.	In towns grant-ing license.	In towns having no ap-plica-tion.	In towns having "No Li- cense."	In towns grant-ing license.	In towns having "No Li- cense."	In all towns.	In towns grant-ing license.	In towns having no ap-plica-tion.	In all towns.	In all towns.
Adams	588	2,625	5,868	6.6	28.9	64.5	42	189	451	682	14.0	13.9	13.3
Buffalo	6,821	1,639	13,071	52.2	12.5	35.3	371	82	225	578	18.4	20.5	19.3
Columbia	4,142	2,843	11,018	23.0	15.8	61.2	152	126	477	755	47.0	22.6	23.8
Crawford	3,653	4,065	3,753	31.9	35.6	32.5	196	186	219	601	18.6	22.0	19.1
Dane	11,931	16,318	9,921	31.3	42.7	26.0	341	479	359	1,179	35.1	34.1	32.3
Dunn	3,656	7,560	8,172	18.8	38.9	42.3	149	319	383	851	24.5	23.7	22.8
Eau Claire	1,731	2,619	6,901	15.4	23.3	61.3	63	124	443	630	27.5	20.3	17.9
Grant	8,987	4,975	12,052	34.5	19.1	46.4	578	218	577	1,173	23.8	22.8	22.2
Green	3,243	9,782	25,994	12.5	21.8	65.7	70	110	288	468	23.5	23.9	20.9
Green Lake	2,643	1,298	5,060	29.4	14.3	56.3	97	48	202	781	27.3	20.4	31.0
Iowa	4,443	7,726	15,740	27.1	49.2	23.7	379	110	208	781	25.5	20.4	21.6
Juneau	1,631	8,011	14,635	32.8	12.5	54.7	197	123	466	786	24.3	14.9	18.6
La Crosse	7,852	2,117	11,376	63.7	18.6	18.7	306	98	55	461	25.4	21.6	24.7
La Fayette	4,261	8,518	13,510	17.6	27.4	55.0	89	186	321	596	30.7	22.9	26.0
Marquette	3,027	1,414	8,778	34.5	16.1	49.4	147	76	243	466	22.3	18.6	18.8
Monroe	4,120	5,019	10,721	20.7	28.3	53.9	178	216	517	909	23.4	20.7	21.9
Pepin	3,135	1,522	5,799	19.6	26.3	54.1	47	34	150	231	24.3	20.9	25.1
Pierce	7,162	9,109	18,714	13.0	38.3	48.7	62	207	307	578	39.4	34.6	32.5
Richland	2,140	7,506	15,991	7.1	46.9	46.0	36	264	285	585	31.7	28.4	27.4
Rock	12,375	22,635	18,614	10.4	35.2	54.4	70	204	428	742	32.9	23.9	32.3
St. Croix	8,026	3,500	18,614	38.1	18.7	43.2	272	341	133	746	26.1	23.9	24.9
Sauk	9,653	5,516	21,232	28.7	45.3	26.0	244	338	296	838	25.1	23.6	25.4
Shawano	3,903	13,062	17,860	2.8	18.3	78.7	221	134	580	735	23.6	24.7	24.3
Trempealeau	9,219	11,014	23,028	13.6	39.3	47.1	121	233	363	807	23.1	31.5	29.0
Vernon	2,763	3,378	13,304	27.7	25.4	46.9	180	141	524	645	50.5	23.9	26.6
Waushara	3,378	6,233	13,304	27.7	25.4	46.9	180	141	524	645	50.5	23.9	26.6
Totals	100,203	127,339	185,937	24.3	30.8	44.9	4,003	4,915	8,290	17,206	25.2	25.9	24.1

TABLE XIX.—Northern division counties.

Classification of population, area and density of population, showing by counties the total population and per cent. of population and the total areas and the population per square mile of all towns, classified as follows: Towns granting license; towns having voted "No License," and towns having no application for license.

NAME OF COUNTY.	TOTAL POPULATION.				PER CENT. OF POPULATION.				TOTAL AREA—SQUARE MILES.				AVERAGE POPULATION PER SQUARE MILE.			
	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.
	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.	In towns granting license.	In towns having voted "No License."	In towns having no application.	In all towns.
Ashland.....	4,272	1,133	420	5,825	73.4	19.4	7.2	99.9	294	115	396	909	8.5	3.9	3.7	6.4
Barnes.....	3,155	5,011	7,436	16,302	23.1	30.9	46.0	896	194	396	1,886	18.1	19.3	16.4	18.8	18.1
Bayfield.....	4,788	1,691	410	6,919	69.2	24.4	6.4	1,802	565	440	3,807	3.8	6.0	3.0	4.1	3.8
Burnett.....	9,895	3,810	3,026	6,946	65.3	56.0	44.0	884	503	381	1,868	7.8	19.3	7.6	7.9	7.8
Chippewa.....	9,365	2,396	2,834	15,127	49.7	15.8	13.9	512	203	250	1,216	13.7	19.3	10.4	11.3	13.7
Clark.....	4,811	1,078	9,016	20,039	92.3	5.4	41.9	502	72	642	1,216	16.5	19.3	15.0	14.7	16.5
Douglas.....	2,852	515	135	3,497	82.9	17.1	9.8	738	90	340	1,298	4.1	6.4	6.1	4.1	6.4
Florence.....	2,742	519	135	3,396	35.1	37.1	34.9	391	422	470	1,082	1.3	6.8	1.1	7.1	6.6
Fore-St.....	2,139	1,311	3,810	6,016	100.0	35.3	34.9	391	422	470	1,082	1.3	6.8	1.1	7.1	6.6
Iron.....	6,016	1,311	3,810	6,016	100.0	35.3	34.9	391	422	470	1,082	1.3	6.8	1.1	7.1	6.6
Jackson.....	1,323	5,103	7,009	14,435	11.3	35.3	53.4	176	301	487	776	8.5	8.5	16.9	15.8	8.5
Lac du Flambeau.....	1,323	886	1,281	3,490	11.2	11.8	17.0	317	257	144	68	14.8	10.3	3.1	18.6	14.8
Lincoln.....	2,879	1,082	3,441	897	89.7	10.8	10.8	144	144	108	1,587	16.7	16.7	16.7	16.7	16.7
Marathon.....	2,201	1,082	28,353	30,636	64.4	1.2	34.4	613	144	343	1,094	3.9	0.3	0.3	3.9	3.9
Menomonie.....	12,727	6,136	3,232	14,115	81.3	43.4	37.3	218	238	136	452	14.8	12.5	21.3	11.8	14.8
Polk.....	11,417	2,388	2,774	16,579	27.4	23.3	23.3	346	238	303	1,216	24.9	22.5	22.5	24.9	24.9
Portage.....	1,884	2,387	1,413	5,684	33.2	41.8	25.0	303	303	303	1,216	7.7	7.7	7.7	7.7	7.7
Sawyer.....	2,720	112	1,288	4,720	103.3	15.3	15.3	1,221	36	275	1,221	2.2	2.2	3.1	4.7	2.2
Taylor.....	6,978	1,970	1,288	8,378	53.8	46.2	46.2	636	324	425	983	8.5	10.3	6.1	4.7	8.5
Valley.....	2,760	1,580	4,379	8,719	63.8	38.2	38.2	439	203	425	858	5.1	6.1	3.7	4.4	5.1
Waushara.....	5,239	5,632	10,349	21,180	21.7	26.6	48.2	172	203	393	743	28.5	30.4	27.7	28.0	28.5
Winnebago.....	10,285	1,281	2,701	14,267	72.1	9.0	18.0	512	72	211	793	18.0	20.1	17.8	12.8	18.0
Wood.....	136,221	45,113	62,149	243,483	55.8	18.5	25.7	13,878	4,688	6,658	25,234	9.6	9.8	9.6	9.3	9.6
Totals.....	136,221	45,113	62,149	243,483	55.8	18.5	25.7	13,878	4,688	6,658	25,234	9.6	9.8	9.6	9.3	9.6

DENSITY OF POPULATION.

TOWNS HAVING LICENSE IN FORCE.

Of the 500 towns having license 39, or 7.8%, have an average population estimated at less than 5 per square mile; 41, or 8.2%, have 5 but less than 10; 76, or 15.2%, have 10 but less than 20; 127, or 25.4%, have 20 but less than 30; 106, or 21.2%, have 30 but less than 40; 72, or 14.4%, have 40 but less than 50; and 39, or 7.8%, have 50 and over. Of the 50 towns having less than 10 per square mile, all but 7 are in the Northern counties and represent about 42% of the licensing towns of this division. It is probable that the population is chiefly centralized in small portions of the towns reporting license, (and average population of less than 10 per square mile), and therefore these figures for density of population are not representative as affecting this phase of the question.

The total number of towns having license in force in which the average of population is 10 and over but less than 40 per square mile is 309, or 61.8% of all licensing towns. In the Eastern division counties this class embraces 117 towns, or 51.3% of all licensing towns; in the Southwestern division counties, this class embraces 98 towns, or 95.1% of all licensing towns in this group; and in the Northern counties, the number of licensing towns in this class is 96, or 55.6% of the total number. The towns granting license in the eastern counties which are not embraced in the foregoing class, i. e., towns having average population from 10 to 40, are nearly all in the classes of the greater density of population, whereas in the Northern counties, the towns not embraced in this class are nearly all in classes of less density of population.

TOWNS HAVING VOTED "NO LICENSE."

Of the 223 towns in this class, 31 are in the Eastern division counties, 127 in the Southwestern division, and 65 in the Northern. The 19 towns in this class having an average of less

than 5 population per square mile are all in the Northern division and all except 2 of the 10 towns having 5 but less than 10 per square mile are also in the Northern division counties. The same general features for the distribution of towns by density of population are observable in respect to towns having voted "No license" as were pointed out for licensing towns. The proportion of towns in the classes from 10 to 40 population per square mile is somewhat greater, however, for the "No license" towns, indicating that, while the average population per square mile for all "No license" towns is slightly less than for licensing towns, the larger proportion of the "No license" towns are more nearly uniform and nearer the average density of population.

TOWNS HAVING NO APPLICATION FOR LICENSE.

Of the total number of towns having no application, 48, or only about 12.7%, are in the Eastern counties, 218, or 58%, are in the Southwestern division, and 110, or 29.3%, are in the Northern counties. Of the 63 towns averaging less than 10 population per square mile, all but 8 are in the Northern counties. Of the total number of towns having no application, 105, or 27.9%, have 10 and over but less than 20 population per square mile, while those averaging 20 and over number 208, or 55.3% of the total.

In the Eastern division, only 2 towns have less than 10 population per square mile and only 11 have less than 20. In the Southwestern division which embraces 218 towns, or 58% of all towns having no application, only 6 have an average population of less than 10 per square mile and 80 have less than 20 per square mile. In the Northern division, of the 110 towns having no applications, 33 average less than 5 population per square mile, 55 average less than 10, and 77 average less than 20 per square mile. The number of towns having no application and averaging less than 20 population per square mile constitute 22.9% of all such towns in the Eastern division, 36.8% in the Southwestern division, and 70% in the Northern division.

ANALYTICAL SUMMARY OF TABLE XX.

Towns having license in force classified by the average density of population.

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties.	Northern counties.	
Total number of towns	224	103	173	500
Number of towns having average population less than 5 per square mile	1	.....	38	39
5 but less than 10	6	.....	35	41
10 but less than 20	6	27	43	76
20 but less than 30	41	50	36	127
30 but less than 40	68	21	17	106
40 but less than 50	64	5	3	72
50 and over	38	.....	1	39
Per cent. of towns having average population less than 5 per sq. mile .....	.5	.....	21.9	7.8
5 but less than 10	2.7	.....	20.2	8.2
10 but less than 20	2.7	26.2	24.9	15.2
20 but less than 30	18.3	48.5	20.9	25.4
30 but less than 40	30.3	20.4	9.8	21.2
40 but less than 50	28.6	4.9	1.7	14.4
50 and over	16.9	.....	.6	7.8

ANALYTICAL SUMMARY OF TABLE XX

Towns having voted "no license" classified by the average density of population

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties.	Northern counties.	
Total number of towns	31	127	65	223
Number of towns having average population less than 5 per square mile .....	.....	.....	19	19
5 but less than 10	1	1	10	12
10 but less than 20	2	29	16	47
20 but less than 30	8	60	16	84
30 but less than 40	16	30	3	49
40 but less than 50	3	5	1	9
50 and over	1	2	.....	3
Per cent. of towns having average population less than 5 per sq. mile .....	.....	.....	29.3	8.5
5 but less than 10	3.2	.8	15.4	5.4
10 but less than 20	6.4	22.8	24.6	21.0
20 but less than 30	25.8	47.3	24.6	37.7
30 but less than 40	51.7	23.6	4.6	22.0
40 but less than 50	9.7	3.9	1.5	4.0
50 and over	3.2	1.6	.....	1.4

ANALYTICAL SUMMARY OF TABLE XX

Towns having no application for license classified by average density of population showing the number of towns in each state of the following classes:

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties.	Northern counties.	
Total number of towns	48	218	110	376
Number of towns having average population less than 5 per square mile				
5 but less than 10	2	66	33	33
10 but less than 20	9	74	22	105
20 but less than 30	12	109	26	147
30 but less than 40	18	23	4	45
40 but less than 50	5	6	8	14
50 and over	2			2
Per cent. of towns having average population less than 5 per sq. mile			30.0	8.8
5 but less than 10	4.2	2.8	20.0	8.0
10 but less than 20	18.7	33.9	20.0	27.9
20 but less than 30	25.0	50.0	23.6	39.0
30 but less than 40	37.5	10.6	3.7	12.0
40 but less than 50	10.4	2.7	2.7	3.7
50 and over	4.2			.6

TABLE XX—EASTERN DIVISION COUNTIES.

Towns having license in force classified by average density of population, showing number of towns in each of the following classes:

Name of County.	Average Population per Square Mile.						
	Under 5.	5 to 10	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Brown					1	9	5
Calumet					4	2	2
Dodge				3	8	5	
Door				5	5		
Pond du Lac			1	2	6	1	2
Jefferson				2	8	2	
Kenosha				1	2	2	1
Kewaunee					1	6	
Manitowoc					6	8	4
Marquette		3	2	2			
Milwaukee							7
Oconto	1	2	1	8			
Outagamie				1	4	4	1
Ozaukee						4	3
Racine				2		3	2
Shawano		1	1	9	4	1	
Sheboygan			1	1	3	4	5
Walworth				3	3		
Washington					4	5	3
Waukesha				1	5	5	2
Winnebago				1	1	3	1
Totals	1	6	6	41	68	64	38

SOUTHWESTERN DIVISION COUNTIES.

Towns having license in force, classified by average density of population, showing number of towns in each of the following classes:

Name of County.	Average Population per Square Mile.						
	Under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Adams			1				
Buñalo			7	2			
Columbia				2	2		
Crawford			4				
Dane				3	4	3	
Dunn			2		2		
Eau Claire				1			
Grant			2	7	1		
Green				2			
Green Lake				3			
Iowa				3			
Juneau			1	2		1	
La Crosse			1	5	2		
La Fayette				2	1		
Marquette			2	3			
Monroe			2	1	1		
Pepin				1			
Pierce					1	1	
Richland					1		
Rock				1			
St. Croix				5	2		
Sauk			1	3	2		
Trempealeau				1			
Vernon			1	2			
Waushara			3	1	1		
Totals			27	50	21	5	

NORTHERN DIVISION COUNTIES.

Towns having license in force, classified by average density of population, showing the number of towns in each of the following classes:

Name of County.	Average Population per Square Mile.						
	Under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Ashland		2	2				
Barron			3	2			
Bayfield	2	3					
Burnette							
Chippewa		1	2	4	1		
Clark		1	4	6	1		
Douglas	1	2					
Florence		2					
Forest	3						
Rusk	5	1	1				
Iron	2	2	1				
Jackson	1	1		1			
Langlade	3	2	1	4			
Lincoln	2	4	4				
Marathon	1	6	13	11	4		
Oneida	4	1					
Polk		1	1	3			
Portage			2	2	2	1	1
Price	3	1					
Sawyer	1						
Taylor	3	1	3	1	2		
Vilas	1	1					
Washburn	4	2			1		
Waupaca			1		4		
Wood	2	1	5	2	2	2	
Totals	38	35	43	36	17	3	1

EASTERN DIVISION COUNTIES.

Towns having "No License," classified by average density of population, showing number of towns in each of the following classes:

Name of County.	Average Population Per Square Mile.						
	Under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Brown					2	1	
Calumet						1	
Dodge				2	1		
Door					2		
Fond du Lac				1	4		
Jefferson					1		
Kenosha					2		
Kewaunee							
Manitowoc							
Marinette		1					
Milwaukee							
Oconto							
Outagamie			1	1			
Ozaukee							
Racine				2			
Shawano			1				1
Sheboygan							
Walworth					2		
Washington							
Waukesha				1			
Winnebago				1	2	1	
Totals		1	2	8	16	3	1

SOUTHWESTERN DIVISION COUNTIES.

Towns having voted "No License," classified by average density of population, showing number of towns in each of the following classes:

Name of County.	Average Population Per Square Mile.						
	Under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Adams			4				
Buffalo			1	1			
Columbia			1	1	1		
Crawford			1	2			
Dane			1	7	4	2	
Dunn			3	3	2		
Fau Claire			2	1			
Grant			1	6			
Green				2	1		
Green Lake				1			
Iowa			4	3			
Juneau		1	1		1		
La Crosse				2			
LaFayette				5			
Marquette			1	1			
Monroe			2	3	1		
Pepin						1	
Pierce				1	5	1	
Ritchland				4	3		
Rock				2	2	1	1
St. Croix			2	7	1		
Sauk			2	3	3		1
Trempealeau			1	2			
Vernon				4	4		
Waushara			2		2		
Totals		1	29	60	30	5	2

NORTHERN DIVISION COUNTIES.

Towns having voted "No License," classified by average density of population, showing number of towns in each of the following classes:

Name of County.	Average Population Per Square Mile.						
	Under 5	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Ashland	2	1					
Barron		1	3	2			
Bayfield	4						
Burnette	3	1	1				
Chippewa	1	1	1				
Clark			2				
Douglas		1					
Florence							
Forest	2						
Rusk							
Iron							
Jackson	1		2	3			
Langlade	2	1					
Lincoln							
Marathon							
Oneida	1						
Polk			3	4			
Portage			1	4	1		
Price	1	3	1				
Sawyer							
Taylor	1						
Vilas	1	1					
Washburn							
Waupaca			1	2	2	1	
Wood				1			
Totals	19	10	16	16	3	1	

EASTERN DIVISION COUNTIES.

Towns having no application for license, classified by average density of population, showing the number of towns in each of the following classes:

Name of County.	Average Population per Square Mile.						
	Under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Brown							1
Calumet							
Dodge				2	2	1	
Door			1		1		
Fond du Lac					4		
Jefferson					1	1	
Kenosha							
Kewaunee							
Manitowoc							
Marquette							
Milwaukee							
Oconto		1	1	2			
Outagamie			2	1	1	2	1
Ozaukee							
Racine							
Shawano		1	4				
Sheboygan					1		
Walworth			1	5	2		
Washington					1		
Waukesha				1	1		
Winnebago				1	4	1	
Totals		2	9	12	18	5	2

SOUTHWESTERN DIVISION COUNTIES.

Towns having no application for license, classified by average density of population, showing the number of towns in each of the following classes:

Name of County.	Average Population per Square Mile.						
	Under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Adams			11	1			
Buffalo			3	3			
Columbia			2	12			
Crawford			3	1			
Dane			2		2		
Dunn		1	3	5		2	
Eau Claire		1	3	4		1	
Grant			9	6	1		
Green			2	6	3		
Green Lake			1	4	1		
Iowa			3	1			
Juneau		2	5	5			
La Crosse				1			
La Fayette			4	2	2		
Marquette		1	4	2			
Monroe		1	5	6	2		
Pepin			3	3			
Pierce			2	2	2	2	
Richland				8			
Rock				9	2	1	
St. Croix			1		3		
Sauk			3	4			
Trempealeau				10	1		
Vernon				6	4		
Waushara			5	4			
Totals		6	74	109	23	6	

NORTHERN DIVISION COUNTIES.

Towns having no applications for license, classified by average density of population, showing number of towns in each of the following classes:

Name of County.	Average Population per Square Mile.						
	Under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 and over.
Ashland	1						
Barron		1	6	2	1		
Bayfield	1						
Burnette	1	2	1				
Chippewa	1		1	1			
Clark	2	5	4	4	1		
Douglas	1						
Florence							
Forest	1						
Rusk	4	1					
Iron							
Jackson	1	1	2	5			
Langlade	1				1		
Lincoln	1	1					
Marathon		2	1				
Oneida	4						
Polk	3	2	3	3		1	
Portage			1	2			
Price	3	2					
Sawyer							
Taylor	1	3					
Vilas							
Washburn							
Waupaca	6	1					
Waupesa			1	7	1	2	
Wood	1	1	2	2			
Total	33	22	22	26	4	3	

CONTIGUITY OF LICENSING TO NON-LICENSING TERRITORIES.

An effort was made, in tabulating the returns for towns having voted "No license" and towns having no application for license, to obtain additional light on the situation by noting in a separate column the nearness of cities, villages, or towns having license in force. The location within the several towns of any center of business or population such as a city, village, post-office, or railroad station in which no licenses were in force was also noted. All cities having on or within their boundaries incorporated cities or villages in which licenses were in force were marked with a small letter *a*. All towns which were contiguous, i. e., whose boundaries were common on one side, to towns having licenses in force were marked with the letter *b*. All towns on or within whose boundaries there was located an incorporated city, village or other center of business or population, such as a post-office or railroad station, in which no license was in force were marked *c*. It was the purpose in noting this last fact to find roughly the number of non-licensing towns in which there were any centers of population or business, which, other conditions being favorable, might invite saloons.

Of the 223 "No license" towns in the state, 49, or 22%, have on or within their boundaries licensing cities or villages and, of these, 31 towns, or 13.9% of the total number are also contiguous to licensing towns. The total number of the "No license" towns contiguous to licensing towns is 155, or 69.5% of all such towns. The total number of "No license" towns containing non-licensing centers of business or population is 133 towns, or 59.6% of all such towns, but out of this number, 97, or 43.5% of the total of "No license" towns are contiguous.

Considered by divisions it appears that, in the Eastern counties, 5 of the 31 towns have on or within their boundaries licensing cities or villages and that all of these 5 towns are also contiguous to licensing towns. All but 4 towns out of the 31 are contiguous to licensing towns. Eighteen towns contain non-licensing centers but all except 4 of these are contiguous to licensing territory. Out of the 31 towns, 4, or 12.9%

of the total, are not contiguous to non-licensing cities, villages, or towns, and all of these contain non-licensing centers.

Of the 127 "No license" towns in the Southwestern division counties, 34, or about 26.7%, have licensing cities or villages on or within their boundaries, and of these 34, 19 are also contiguous to licensing towns. Of the 127 towns, 80, or about 63% of the total, are contiguous to licensing towns. Seventy-one towns contain non-licensing centers but out of this number, 49 are contiguous to licensing towns. Of the 127 "No license" towns in this division, 32, or 25.2% of the total number are not contiguous to licensing cities, villages, or towns, and of this number, 22 towns contain non-licensing centers of business or population.

Of the 65 "No license" towns in the Northern counties, 10 have on or within their boundaries licensing cities or villages, and of this number, 7 towns are also contiguous to licensing towns. The number of towns contiguous to towns having license in force is 48, or 73.8% of all "No license" towns in this division. The number of towns having non-licensing cities, villages, post-offices, or railroad stations, within their boundaries is 44, or 67.6% of the total number of "No license" towns in this division. Of this number, 34 towns, or 52.2% of the total, are contiguous to licensing towns. Of the 65 towns in this group, 14 are not contiguous to any licensing territory and of these, 10 contain centers of business or population.

TOWNS HAVING NO APPLICATION FOR LICENSE.

Out of the 376 towns in the state reporting no application for license, 162, or 43.1%, have on or within their boundaries licensing cities or villages, and of this number, 129, or 34.3% of the total, also have licensing towns contiguous. The whole number of towns, having no application, which are contiguous to towns having license in force is 264, or 70.2% of the total number of such towns. The total number containing non-licensing centers of business or population is 119, or 31.6% of all towns having no application. Out of these 119 towns, 73

are contiguous to towns having license in force. The total number of towns, having no application for license, which are not contiguous to any licensing town, city, or village is 79, or 21% of the total number of such towns, and of this number, 46 towns contain cities, villages, post-offices, or railroad stations.

Considered by divisions, the towns having no application for license present a situation not very unlike that shown for the "No license" towns. In the Eastern division, 30, or 62.4% of the 48 towns having no application, have on or within their boundaries cities or villages in which licenses are in force. All of these towns are, moreover, contiguous to licensing towns. The total number of towns having no application for license, which are contiguous to licensing towns embraces all but 2 of the towns in this group. There are seven towns having non-licensing centers of business or population, five of these being contiguous to licensing towns. The number of towns in the entire group not contiguous to licensing territory is 3, of which 2 have centers of business or population.

Of the 218 towns in the Southwestern division, 88, or 40.3%, have licensing cities or villages on or within their boundaries, and of this number, 58 are also contiguous to towns having license in force. The whole number of towns, having no applications, in this division which are contiguous to licensing towns is 127, or 58.2% of all such towns. The total number of towns in this group containing centers of population or business, in none of which licenses are in force, is 72, or 33% of the total number. The number of towns not contiguous to any licensing city, village, or town is 61, or 28.1% of the whole number of towns in the division having no applications for license. Of these 61 towns, 33 have centers of population or business.

Of the 110 towns in the Northern division counties which have no applications for license, 44, or 40%, have licensing cities or villages on or within their boundaries, and 41 of these are, moreover, contiguous to licensing towns. Of the total number of towns 92, or 83.7% are contiguous to licensing towns. The number of towns having centers of popula-

tion or business in none of which license is in force is 40, of which number 29 are contiguous to licensing towns. The total number of towns not contiguous to licensing territory is 15, of which 10 have non-licensing centers of population or of trade.

ANALYTICAL SUMMARY OF TABLE XXI.

Classification of towns voting "No License," with reference to contiguity of towns, cities and villages having license in force.

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties.	Northern counties.	
Total number of towns	31	127	65	223
No. of towns marked a.	8	15	3	18
No. of towns marked b.	8	12	7	27
No. of towns marked ab.	5	19	7	31
No. of towns marked c.	4	22	1	36
No. of towns marked bc.	14	49	34	97
Per cent. of towns marked a.	25.8	11.8	4.6	8.1
Per cent. of towns marked b.	25.8	9.5	10.8	12.1
Per cent. of towns marked ab.	16.1	14.9	10.8	13.9
Per cent. of towns marked c.	12.9	17.3	15.4	16.1
Per cent. of towns marked bc.	45.2	38.6	52.2	43.5

ANALYTICAL SUMMARY OF TABLE —.

Classification of towns having no application for license, with reference to contiguity of towns, cities and villages having license in force.

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties.	Northern counties.	
Total number of towns	48	218	110	376
No. of towns marked a.	10	30	3	33
No. of towns marked b.	10	30	22	62
No. of towns marked ab.	30	58	41	129
No. of towns marked c.	2	33	11	46
No. of towns marked bc.	5	39	29	73
Per cent. of towns marked a.	20.8	13.7	2.7	8.8
Per cent. of towns marked b.	20.8	13.7	20.0	16.5
Per cent. of towns marked ab.	62.4	26.6	37.3	34.3
Per cent. of towns marked c.	4.2	15.1	10.0	12.2
Per cent. of towns marked bc.	10.4	17.9	26.4	19.4

ANALYTICAL SUMMARY OF TABLE —.

Towns having no application for license classified by the average density of population.

Headings.	Divisions.			State as a whole.
	Eastern counties.	South-western counties	Northern counties.	
Total number of towns	48	218	110	376
No. of towns having average population:				
Less than 5 per square mile.....			33	33
5 but less than 10	2	6	22	30
10 but less than 20	9	74	22	105
20 but less than 30	12	109	26	147
30 but less than 40	18	23	4	45
40 but less than 50	5	6	3	14
50 and over	2			2
Per cent. of towns having average population:				
Less than 5 per square mile.....			30.0	8.8
5 but less than 10	4.2	2.8	20.0	8.0
10 but less than 20	18.7	34.0	20.0	27.9
20 but less than 30	25.0	50.0	23.6	39.1
30 but less than 40	37.5	10.5	3.6	12.0
40 but less than 50	10.4	2.7	2.9	3.7
50 and over	4.2			.5

TABLE XXI.

EASTERN DIVISION COUNTIES.

Towns having voted "No License" classified, viz.: a—towns having on or within their boundaries a licensing city or village; b—towns contiguous to other towns granting license; ab—both a and b apply; c—towns containing city, village, post office or railroad station where no license is in force and not containing licensing city or village; bc—both b and c apply.

County.	Total No. of towns.	a No. of towns.	b No. of towns.	ab No. of towns.	c No. of towns.	bc No. of towns.
Brown	3			1		2
Calumet	1			1		
Dodge	3		1			2
Door	2				1	1
Fond du Lac	5		3			2
Jefferson	1		1			
Kenosha	2		1			1
Kewaunee						
Manitowoc						
Marquette	1					1
Milwaukee						
Oconto						
Outagamie	2			1	1	
Ozaukee						
Racine	2			1		1
Shawano	2					2
Sheboygan						
Walworth	2		1			1
Washington						
Waukesha	1			1		
Winnebago	4		1		2	1
Totals	31		8	5	4	14

SOUTHWESTERN DIVISION COUNTIES.

Towns having voted "No License" classified, viz.: a—towns having on or within their boundaries a licensing city or village; b—towns contiguous to other towns granting license; ab—both a and b apply; c—towns containing city, village, postoffice or railroad station where no license is in force and not containing licensing city or village; bc—both b and c apply.

County.	Total No. of towns.	a No. of towns.	b No. of towns.	ab No. of towns.	c No. of towns.	bc No. of towns.
Adams	4				2	2
Buffalo	2					2
Columbia	3	1		2		
Crawford	3		2			1
Dane	14	1	2	2	1	7
Dunn	8	1	1		1	5
Eau Claire	3	2				
Grant	6			1		5
Green	3					1
Green Lake	1		1			
Iowa	7	2			3	2
Juneau	3	1	1			1
La Crosse	2			2		
La Fayette	5	1	1		3	
Marquette	2					2
Monroe	6		1		1	3
Peplin	1			1		
Pierce	7				3	4
Richland	7	1		1	1	3
Rock	6	1		2	1	1
St. Croix	10	1	2	5		1
Sauk	9	2		3	1	2
Trempealeau	3		1		2	
Vernon	8	1			3	4
Wausara	4					3
Totals	127	15	12	19	22	49

NORTHERN DIVISION COUNTIES.

Towns having voted "No License" classified, viz.: a—towns having on or within their boundaries a licensing city or village; b—towns contiguous to other towns granting license; ab—both a and b apply; c—towns containing city, village, post office or railroad station where no license is granted and not containing licensing city or village; bc—both b and c apply.

County.	Total No. of towns.	a No. of towns.	b No. of towns.	ab No. of towns.	c No. of towns.	bc No. of towns.
Ashland	3		1		1	1
Barron	6	2		1		3
Bayfield	4					4
Burnette	5				3	2
Chippewa	3		1	1		1
Clark	2		1			
Douglas						
Florence	1					1
Forest	2					2
Itusk						
Iron						
Jackson	6		1		2	2
Langlade	3					3
Lincoln						
Marathon						
Oneida	1					1
Polk	7			2	1	4
Portage	6				1	4
Price	5		1	2		2
Sawyer						
Taylor			1			
Vilas	2		1			1
Washburn						
Waupaca	6	1		1	2	1
Wood	2					2
Totals	65	3	7	7	10	34

EASTERN DIVISION COUNTIES.

Towns having no application for license classified, viz.: a—towns having on or within their boundaries a licensing city or village; b—towns contiguous to other towns granting license; ab—both a and b apply; c—towns containing other towns granting license; ab—both a and b apply; c—towns containing city, village, postoffice or railroad station where no license is granted and not containing licensing city or village; bc—both b and c apply.

County.	Total No. of towns.	a No. of towns.	b No. of towns.	ab No. of towns.	c No. of towns.	bc No. of towns.
Brown	1			1		
Calumet						
Dodge	5		1	4		
Door	2		1	1		
Fond du Lac ..	4		1	2	1	
Jefferson	2		1	1		
Kenosha						
Kewaunee						
Manitowoc						
Marinette						
Milwaukee						
Oconto	4		1	2		
Outagamie	7		1	6		
Ozaukee						
Racine						
Shawano	5		1	3		1
Sheboygan	1			1		
Walworth	8		1	5		2
Washington ..	1			1		
Waukesha	2			1		1
Winnebago	6		2	2	1	1
Totals	48		10	30	2	5

SOUTHWESTERN DIVISION COUNTIES.

Towns having no application for license classified, viz.: a—towns having on or within their boundaries a licensing city or village; b—towns contiguous to other towns granting license; ab—both a and b apply; c—towns containing city, village, postoffice or railroad station where no license is granted and not containing licensing city or village; bc—both b and c apply.

County.	Total No. of towns.	a No. of towns.	b No. of towns.	ab No. of towns.	c No. of towns.	bc No. of towns.
Adams	12		2		4	6
Buffalo	6	1	1	1		2
Columbia	14	3	2	7		
Crawford	4			4		
Dane	10		1	6	1	
Dunn	10		2	1	2	2
Eau Claire	8		2	4		1
Grant	16	1	4	6	4	4
Green	11	1	3	2	2	1
Green Lake	6	2	1	2		1
Iowa	4			3		1
Juneau	12	1	2	4	1	3
La Crosse	1			1		
La Fayette	8	1		1	3	2
Marquette	7		3		1	2
Monroe	14	3	2	4	2	2
Peplin	6	2		1	1	1
Pierce	8	4		1		3
Richland	8			1	5	1
Rock	12	3	1	2	2	2
St. Croix	4		1	1	2	
Sauk	7	1	1			
Trempealeau ..	11	5		3	3	
Vernon	10		1	1	2	2
Waushara	9	1	1	2	2	2
Totals	218	30	30	58	33	39

NORTHERN DIVISION COUNTIES.

Towns having no application for license classified, viz.: a—towns having on or within their boundaries a licensing city or village; b—towns contiguous to other towns granting license; ab—both a and b apply; c—towns containing city, village, postoffice or railroad station where no license is granted and not containing licensing city or village; bc—both b and c apply.

County.	Total No. of towns.	a No. of towns.	b No. of towns.	ab No. of towns.	c No. of towns.	bc No. of towns.
Ashland	1	.....	.....	1	.....	.....
Barron	10	.....	3	4	1	2
Bayfield	1	.....	.....	.....	.....	1
Burnette	4	.....	.....	1	3	.....
Chippewa	3	.....	1	1	.....	1
Clark	16	1	5	3	1	5
Douglas	1	.....	.....	.....	.....	1
Florence .....	.....	.....	.....	.....	.....	.....
Forest	1	.....	.....	.....	.....	1
Rusk	5	.....	1	1	.....	3
Iron .....	.....	.....	.....	.....	.....	.....
Jackson	9	1	1	3	3	1
Langlade	2	.....	.....	1	.....	1
Lincoln	3	.....	.....	1	.....	1
Marathon	3	.....	.....	3	.....	.....
Oneida	4	.....	.....	2	.....	2
Polk	12	.....	1	4	3	3
Portage	3	.....	1	1	.....	1
Price	5	1	2	2	.....	.....
Sawyer .....	.....	.....	.....	.....	.....	.....
Taylor	4	.....	2	1	.....	1
Vilas .....	.....	.....	.....	.....	.....	.....
Washburn	7	.....	4	1	.....	2
Waupaca	11	.....	1	8	.....	1
Wood	6	1	.....	3	.....	2
Totals	110	4	22	41	11	29

GENERAL CONCLUSIONS.

The total number of cities, villages, and towns from which reports were received was 1421, all but 2 villages and 5 towns in the state. Of these 1,421 corporations, 118 are cities, 204 are villages, and 1,099 are towns.

Of the total number of towns, cities, and villages reporting, 113 cities, 183 villages, and 500 towns have licenses in force; 5 cities, 16 villages, and 223 towns have voted "No license" under the local option law; and 5 villages and 376 towns have no licenses in force for other reasons, principally because of no applications. The total number of corporations reporting licenses in force was 796, the number having voted "No license" 244, and the number having no applications 351.

The total population in 1900 of all cities and villages reporting was about 1,010,036. The total population of towns was 1,049,475, making the total population for the cities, vil-

lages, and towns reporting as to license, 2,059,511, or 99.5% of the total population of the state at the last census.

The total population of cities and villages reporting licenses in force was 990,031, or 98% of the population of all cities and villages reporting. The total populations of all towns reporting licenses in force was 551,923, or 52.6% of the population of all towns. The total population of all licensing towns, cities, and villages was, 1,541,954, or 74.8% of the population of all towns, cities, and villages reporting.

The population of cities and villages having voted "No license" under the local option law was 17,730, or 1.8% of the total population of cities and villages. The population of the towns having voted "No license" was 206,785, or 19.7% of the total population in towns. The total population for all cities, villages, and towns having voted "No license" was 224,523, or 10.9% of the total population for all cities, villages, and towns reporting.

There were no cities reporting no license in force for want of applications and the number of villages so reporting was only 5 with a total population of only 2,267, or about .2% of the population of cities and villages. The total population of towns having no license in force because of no applications or other reasons, but not on account of the local option law, was 290,767, or 28.3% of the total population of all towns reporting. The total population of all villages and towns reporting no license in force on account of no applications, etc., was 293,034, or 14.3% of the total population of all cities, villages, and towns reporting.

The "No license" or anti-saloon sentiment, of course, cannot be measured by the extent of license or "No license" regulations. The only absolute facts bearing definitely on this point is, after all, that a majority of the voters of 5 cities, 16 villages, and 223 towns, embracing 10.9% of the population of the state, are opposed to licensed saloons in these cities, villages and towns. How large the majority is remains undetermined. If determined, it would hardly measure the sentiment with any significant results without some facts in hand as to the forces which would inspire opposing sentiment.

It would require a stronger movement to prohibit license in a busy manufacturing city than in a sparsely settled agricultural town; in a thickly settled town with all neighboring centers of business or population having no license than in the same town with a licensing city in the center of it; or in a town or city surrounded by non-licensing towns than in one contiguous to towns having license in force. The proposition of license, it is generally agreed, is not to be looked upon as a question of the rights of certain persons to engage in the sale of a certain commodity but rather of the rights of a large portion of the public to buy a commodity for which it has a desire.

(While it is established that a majority in 10.9% of the population of the state, are opposed to liquor license, there also remains a large, possibly a larger body of like public sentiment outside of the "No license" cities, villages, and towns which is everywhere in the minority and does not proclaim itself on the face of the returns. It makes itself manifest, however, in the election of town boards; in high rates of license, which under some conditions are prohibitive, and in a community feeling which is not inviting to the liquor traffic.

The density of population, within certain limits, does not seem to have a uniform bearing upon the proposition. In a general way, however, it is in some degree significant. On the whole, the average population per square mile is a little higher in the licensing towns than in the "No license" towns. This, however, is what would be expected, since the former class embraces a large proportion of the more intensely industrial localities of the state. Again, the average density of population for towns having no application for license is a little less than that of "No license" towns. The average population of the licensing towns stood at 20.7 per square mile, and that of the "no license" towns at 18.8, and of the towns having no applications for license at 17.6.

Of the number of towns in each class, with reference to license, nearly the same proportion average less than 10 population per square mile, viz.: licensing towns, 16%, "No license" towns, 13.9%, and towns having no applications,

16.8%. But when the proportion of towns under 20 population per square mile is considered, it appears that the proportion which such towns bear to all licensing towns is 31.2%, to "No license" towns 34.9%, and to towns having no applications 44.7%. It would seem that a population of 20 per square mile would not, under ordinary conditions, be an inviting location for a saloon. Such an average would afford only about 63 population within a radius of one mile and about 250 within a radius of two miles, with less than one-third that number being adult male persons. It is conceivable, therefore, that in those licensing towns having an average population of less than 20 per square mile, this population is more or less centralized within the towns. Such indeed was determined to be the case in several instances, particularly in towns of large areas in the Northern counties. In the 34.9% of "No license" towns having less than 20 population per square mile, it is likely that a similar condition prevails to a considerable degree though probably not so marked. The sparsity of population of these towns made for the success of the anti-license movement in many cases. The proportion of towns under 20 population per square mile having no application is 40% greater than of towns of the same population having license in force. There can be no doubt that the sparsity of population in most of these towns is the cause of this situation. This excess in the proportion of towns under 20 population per square mile in the class having no applications over the licensing class, is, however, practically made up of towns which average over 10 population per square mile and under 20. If 16% of all towns granting license average less than 10 population per square mile, it would seem that sparsity of population in the towns having no application would not bar all towns having under 20 per square mile when nearly two-thirds of such towns have an average of over 10 population per square mile. It is likely, however, that a larger proportion of the towns in this class, do not have their population centralized within the towns to the degree which prevails in the licensing towns.

The presence of a licensing city or village on or within the boundaries of a town is not of itself enough, under ordinary conditions, to cause no application to be made for license in the town, or to make friends of the liquor traffic agreeable to license prohibition in the town. Indeed, a third of all licensing towns have also licensing cities or villages on or within their boundaries. The fact that a licensing town adjoins is of even less consequence. Yet each of these, no doubt, has some influence varying with conditions. In fact whatever complications attending a study of this sort arise from the fact that these various factors and forces cannot be successfully appreciated by themselves but must be considered collectively.

About one in five of the "No license" towns is not adjacent to licensing territory, either city, village, or town. 16.1% of all "No license" towns are included in this number which have business or population centers. Of course, these centers are small but they are places which, other conditions being favorable, would invite the location of saloons. On the other hand, about the same proportion of the "No license" towns have licensing cities or villages on or within their boundaries, and practically 70% of all such towns are contiguous to towns in which licenses are in force, while in all, over 77% of the total number are contiguous to licensing territory, city, village, or town. While these considerations do not diminish the importance of the fact that 244 cities, villages, and towns, with nearly 11% of the total population of the state, are controlled by "No license" sentiment, they do indicate that no very considerable portion of the state is without tolerably convenient facilities for the distribution of intoxicants.

Of the towns having no applications for license, about 43% are adjacent to licensing cities or villages and of this number, 16% are also in the class averaging less than 20 population per square mile. It would seem that under ordinary conditions, these combined factors would explain the absence of license in 16% of the towns. 34.3% of all towns having no applications for license are adjacent to both cities or villages and towns in which licenses are in force. The whole proportion adjacent to licensing towns is 70.2%. Taken in connection

with the foregoing, the fact that nearly 45% of these towns average less than 20 population per square mile, it would seem that the absence of license applications would be assignable to sparsity of population and nearness of licensing cities, villages, and towns in no less than one half of the towns. Of course, this can hardly be more than a guess. But, on the other hand, the fact that 21% of these towns, of which 12.2% contain business centers, are not adjacent to licensing towns, and that 55% of them average over 20 population per square mile, would seem to confirm this estimate. For the remainder of these towns, the absence of saloon license must be assigned to other causes not traceable on the map or in the census but found as a trait in the character of the population. There are several ways in which this public characteristic is effective other than through the local option law. In many places, the election of town boards, in others the voting of high license, which under the conditions are nearly prohibitive, while in still other cases, the mere force of public sentiment operates to exclude the liquor traffic from small areas, a town here and there. While these forces are less tangible and definite than the facts of density of population, nearness of licensing cities, etc., or the prohibition of saloon license under the local option law, they all operate to a greater or less degree, and in many cases just as effectively, to the same end. Moreover, they are always reflections of the public sentiment and character in a locality. In assigning approximately one-half of the towns reporting no applications for license to this class, an estimate is offered which is open to all the criticism which must attend any attempt to measure mathematically so intangible and complicated a quantity as public sentiment when not expressed by the absolute and definite vote. Yet this estimate is offered after careful study and is believed to be fairly reliable as an approximation.

The returns give the total number of licenses in force in the state, exclusive of 5 towns and 2 villages not reporting, as 8,732. Of this number, 6,289 are in force in cities and villages, and 2,443 in towns. Of all licenses reported, 7,429, or 85%, are at the minimum lawful rate, i. e., \$100.00 or \$200.00

per annum according to conditions; 203 licenses, or 2.3% of the total number are at the medium lawful rate, \$250.00 or \$350.00, according to conditions; and 1,100, or 12.7% of the total number, are at the maximum rate, \$400.00 or \$500.00. Since over 70% of all licenses are in cities and villages, the bulk of all licenses comes necessarily in the class which, under the law, must pay the higher initial rates, and which, if increased by vote, would pay the higher medium or maximum rates. Of the 2,443 licenses granted by towns, about 460 were granted under conditions which fixed the higher initial rate.

The license laws of Wisconsin favor the minimum rate of license. In fact, unless specific action is taken on the part of the electorate, this rate becomes established by law. This fact, no doubt, contributes much to the great predominance of minimum rates of license in the state. It is not unlikely that, were an election to fix the rate required by statutes in all cases and without any initial rate being set, or if the maximum rate were made the initial rate, subject to definite reductions by the electorate, there would be a smaller proportion of minimum rate licenses in force in the state. This, of course, would involve additional public expense for elections, but the public revenues would be, in some cases at least, permanently increased by higher license rates.

The medium rate for license is partly a reflection of anti-saloon sentiment in small villages and towns. The law provides that where, on a vote to fix the rate of license, there are not a majority of votes for the highest rate, the number of votes so cast shall be added to the number cast for the medium rate and if the total constitutes a majority of all votes cast, the medium rate becomes established. It is doubtful whether in many instances a majority of votes for this rate was obtained except for this provision in the law. The medium rate for license does not seem to be popular.

As above stated, 1,100 licenses are in force at the highest rate and at least 1,020 of these are at the \$500.00 rate. The majority of these high rate licenses are contributed by cities which maintain this rate as a matter of fiscal policy. It is of

interest incidentally to note that while 5,153 minimum rate licenses in cities yield annually about \$1,000,000, 1,020 maximum rate licenses yield an annual revenue of approximately \$500,000. High license as a public revenue policy is more frequent in the newer cities of the northern parts of the state, where the population is rapidly growing and expenditures for public improvements are necessarily large in proportion to taxable property. If it is true, as investigations affirm, that the taxation on intoxicants can be doubled without increased cost to consumers, it may be ventured that high license as a fiscal policy should be more common in cities.

The distribution of saloon licenses through the state in proportion to population brings out certain characteristics which are almost local to sections of the state. As already pointed out, the average population per license in force for licensing cities and villages was 157.4, for towns 226, and for cities, villages, and towns, 176.9. These figures, however, are not the best index to the distribution of license when applied to the several divisions for the reason that the demand which keeps these licenses in force comes from the non-licensing cities, villages, and towns as well as from the cities, villages, and towns in which the licenses are in force.

The total population of all towns, cities, and villages reporting was 2,059,511 and the number of licenses in force 8,732, the average population per license, for the state as a whole, based on 1900 census, would be therefore 236.5. The total population of all cities, villages, and towns reporting in counties of the Eastern part of the state was 1,000,645 and the number of licenses 5,450, the average population per license would be therefore 183.5. The counties of the group already described as the Southwestern counties reported 1,531 licenses and had 652,711 population, or an average of 432 population per license. The towns, cities, and villages of the Northern division counties reported 1,751 licenses in force and had 406,155 population, or an average per license of 231.5. For reasons already discussed, this last average is no doubt relatively a little too low. But taking the figures for what they are worth, it appears that the average population per license

in the Southwestern counties is 2.35 times as great. Stated another way, there are 5.44 licenses in force per 100 of population in the Eastern counties, 2.35 in the Southwestern, and 4.32 in the Northern counties.

The total annual revenues from the liquor licenses in force in all cities, villages and towns in the state was reported as \$1,908,550. In a few cases licenses are granted to summer resorts, etc., for a part of the year, at a fraction of the annual rate.

Based on this well nigh complete census of saloon licenses and the averages made by the returns of the partially complete investigation of the Federal Labor Bureau seven or eight years ago, some calculations and general estimates may be made which will prove instructive.

The total amount of public revenue derived from the manufacture and traffic in alcoholic liquors has increased very considerably since that investigation. The total receipts from licenses then reported was \$1,435,647. The increase since has amounted to 33%. The amount received from fines may be estimated to be about the same as those reported, say \$10,000. The total revenue of the federal government through excise taxes on malt liquors manufactured amounted in 1903 to \$3,900,372 and on distilled spirits to \$2,565,864, making the total federal revenues on Wisconsin product \$6,466,236. Adding to this total the fines collected, for violations of the license laws and the receipts of towns, cities, and villages for licenses, makes a grand total annual revenue from the manufacture and traffic in alcoholic liquors in Wisconsin for federal, state and municipal governments of \$8,384,786, not including taxes on property. For purposes of general estimates it may be assumed that each license represents an establishment in the sense of the federal labor bureau's investigation. There will be a few exceptions to this, no doubt, but they will be comparatively few. On this basis, the following estimates may be offered: The total value of all property employed in the liquor traffic, both owned and rented, is approximately \$33,500,000, of which about \$26,300,000 is in real estate and the remainder in fixtures and sundries. Of the

total amount, about \$15,840,000 is owned and the rest rented. The total annual property tax paid by the liquor traffic is estimated at about \$594,000. The total annual rentals for property capital employed and not owned is estimated at about \$1,680,000. The total number of persons, both proprietors and firm members may be put at about 17,000, and if each of these represents on the average a family of four persons, the total number of persons in the state directly dependent on the liquor traffic for their livelihood would be approximately 68,000. It is evident that the liquor traffic is about as deeply rooted and important a business in Wisconsin as it is elsewhere in the United States.

APPENDIX.

DETAILED TABLES OF STATISTICS FOR TOWNS.

Towns.	Licenses in Force					No License Voted				No Application.			
	No.	Popu- lation.	Area.	Po. ml.	Note.	Popu- lation.	Area.	Po. ml.	Note.	Popu- lation.	Area.	Po. ml.	Note.
ADAMS CO. —													
Adams	2	588	42	14	g	.....	.....	.....	.....	550	48	11.5	a
Big Flats .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	392	33	10.9	b
Colburn .....	.....	.....	.....	.....	.....	581	35	16.5	c	.....	.....	.....	.....
Dell Prairie .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	487	40	12.2	bc
Easton .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	589	36	16.4	e
Jackson .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	384	36	10.7	bc
Leola .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	479	36	13.3	bc
Lincoln .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	593	38	15.6	c
Monroe .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	397	36	11.	b
New Chester .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	693	30	23.	bc
New Haven .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	377	36	10.5	bc
Preston .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quincy .....	.....	.....	.....	.....	.....	432	43	10.	bc	417	38	11.6	bc
Richfield .....	.....	.....	.....	.....	.....	654	58	11.5	c	.....	.....	.....	.....
Rome .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	568	43	13.2	c
Springville .....	.....	.....	.....	.....	.....	958	53	18.1	bc	.....	.....	.....	.....
Strong's Prairie .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	2	588	42	14	.....	2,623	189	13.9	.....	5,888	451	13.0	.....
ASHLAND CO. —													
Agenda .....	.....	.....	.....	.....	.....	610	100	6.1	b	.....	.....	.....	.....
Ashland	2	709	144	4.9	e	.....	.....	.....	.....	420	115	3.7	ab
Butternut .....	.....	.....	.....	.....	.....	231	108	2.1	bc	.....	.....	.....	.....
Gordon	15	1,270	180	7.	e	292	86	3.4	c	.....	.....	.....	.....
Jacobs .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Pointe	15	1,023	72	14.2	e	.....	.....	.....	.....	.....	.....	.....	.....
Morse	9	1,370	104	12.2	ae	.....	.....	.....	.....	.....	.....	.....	.....
Sanborn .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	41	4,272	500	8.5	.....	1,133	294	3.9	.....	420	115	3.7	.....
BARRON CO. —													
Almena	3	713	36	19.8	af	.....	.....	.....	.....	864	36	24.	ab
Barron .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	275	36	7.6	b
Bear Lake	1	581	36	16.1	e	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Lake .....	.....	.....	.....	.....	.....	692	54	12.8	a	.....	.....	.....	.....
Chetek .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clinton	4	1,269	54	22.5	e	606	36	16.8	a	1,130	36	31.4	ab
Crystal Lake .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	879	54	16.4	ab
Cumberland .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dallas .....	.....	.....	.....	.....	.....	941	54	17.4	bc	432	36	12.	b
Dover .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Doyle .....	.....	.....	.....	.....	.....	522	72	7.3	bc	.....	.....	.....	.....
Lakeland .....	.....	.....	.....	.....	.....	1,512	54	28.	bc	.....	.....	.....	.....
Maple Grove .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oak Grove	7	507	36	14.1	e	.....	.....	.....	.....	1,428	54	26.5	bc
Prairie Farm .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	659	36	18.3	b
Rice Lake	5	685	32	21.4	ae	738	36	20.5	ab	508	36	14.1	c
Stanford .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	695	36	19.3	ab
Stanley .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	566	36	15.7	bc
Sumner .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Turtle Lake .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vance Creek .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	20	3,755	194	19.3	.....	5,011	306	16.4	.....	7,496	396	18.8	.....

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Population.	Area.	Po. mi.	Note.	Population.	Area.	Po. mi.	Note.	Population.	Area.	Po. mi.	Note.
BAYFIELD CO.—													
Bayfield	8	421	144	2.9	g								
Ball						21	42	3	bc				
Cable						270	126	2.1	bc				
Drummond						530	234	2.2	bc				
Eileen										440	108	4.1	bc
Iron River	27	2,439	246	9.9	e								
Mason	7	1,240	189	6.4	f								
Pratt						482	123	3.9	bc				
Port Wing	3	128	108	1.2	e								
Washburn	1	590	110	5.4	ag								
Totals	46	4,788	797	6.0		1,601	565	3.0		440	108	4.1	
BROWN CO.—													
Altona	5	720	6	12.0	ae								
Ashwaubenon										540	55	72	ab
Bellevue	3	864	14	61.7	e								
De Pere	2	803	20	44.7	ae								
Eaton	4	1,154	24	48.1	e								
Glenmore	4	1,421	33	43.2	e								
Green Bay	3	920	32	41.8	e								
Holland	4	1,257	27	46.8	e								
Howard	14	1,509	18	63.7	e								
Humboldt	5	1,043	24	47.6	e								
Lurenee						1,048	23	45.5	ab				
Morrison	6	1,493	36	41.5	e								
New Denmark	6	1,474	36	41	e								
Pittsfield						1,411	36	39.1	bc				
Proble	21	1,937	20	97.8	e								
Rockland						836	22	38.1	bc				
Scott	5	1,177	23	51.1	e								
Swansea	4	1,228	36	31.1	e								
Wrightstown	3	1,575	36	43.7	af								
Totals	89	18,685	375	49.8		3,992	121	32.9		540	75	72	
BUFFALO CO.—													
Alma	1	655	42	15.6	ae								
Belvidere	2	749	41	18.3	ae								
Buffalo	5	694	30	23.1	ae								
Canton										789	36	21.9	
Cross	1	621	37	16.8	ae								
Dover										861	36	23.9	b
Gilmanton	4	829	33	23.1	e								
Glencoe										787	44	17.9	bc
Lincoln	2	589	38	16.3	e								
Maxville										666	40	16.5	bc
Milton	1	366	25	14.6	ae								
Modena						872	36	24.2	bc				
Mondovi						707	46	16.7	bc				
Montana										622	33	18.8	ab
Naples										886	36	24.6	a
Nelson	4	1,575	80	18.8	af								
Woonandee	2	813	44	18.5	e								
Totals	22	6,821	371	18.4		1,639	82	20.		4,611	225	20.5	
BURNETT CO.—													
Blaine						380	128	3.	bc				
Grantsburg										1,688	120	14.1	ab
Jackson						824	108	3.	c				
Marshland										703	153	4.6	c
Meenon						548	90	6.1	c				
Rock										420	72	5.8	c
Roosevelt										210	36	5.8	c
Trade Lake						1,174	36	32.6	c				
Wood Lake						1,414	141	10.0	bc				
Totals						3,840	503	7.6		3,026	381	7.9	

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Population.	Area.	Po. mi.	Note.	Population.	Area.	Po. mi.	Note.	Population.	Area.	Po. mi.	Note.
CALUMET CO.—													
Brillion	4	1,563	35	43.5	no	.....	.....	.....	.....	.....	.....	.....	.....
Brothertown	6	1,539	36	42.8	e	.....	.....	.....	.....	.....	.....	.....	.....
Charlestown	4	1,313	35	37.3	ae	.....	.....	.....	.....	.....	.....	.....	.....
Chilton	.....	.....	.....	.....	.....	1,350	32	42.2	ab	.....	.....	.....	.....
Harrison	13	2,022	34	59.5	ae	.....	.....	.....	.....	.....	.....	.....	.....
New Holstein	3	1,140	34	33.5	ae	.....	.....	.....	.....	.....	.....	.....	.....
Rantoul	3	1,299	34	38.2	no	.....	.....	.....	.....	.....	.....	.....	.....
Stockbridge	7	1,942	38	51.1	e	.....	.....	.....	.....	.....	.....	.....	.....
Woodville	4	1,315	33	39.8	ae	.....	.....	.....	.....	.....	.....	.....	.....
Totals	44	12,163	281	43.3	.....	1,350	32	42.2	.....	.....	.....	.....	.....
CHIPPewa CO.—													
Anson	.....	.....	.....	.....	.....	697	40	17.4	b	.....	.....	.....	.....
Arthur	2	924	104	8.9	e	.....	.....	.....	.....	.....	.....	.....	.....
Auburn	.....	.....	.....	.....	.....	1,186	72	6.5	ab	.....	.....	.....	.....
Bloomer	1	1,470	75	19.6	ae	.....	.....	.....	.....	.....	.....	.....	.....
Cleveland	.....	.....	.....	.....	.....	.....	.....	.....	.....	577	128	4.5	bc
Colburn	.....	.....	.....	.....	.....	513	118	4.3	bc	.....	.....	.....	.....
Delmar	1	808	38	21.3	e	.....	.....	.....	.....	.....	.....	.....	.....
Eagle Point	9	1,388	60	23.3	ae	.....	.....	.....	.....	.....	.....	.....	.....
Eaton	1	1,174	54	21.8	ae	.....	.....	.....	.....	.....	.....	.....	.....
La Fayette	1	1,797	60	30.	ae	.....	.....	.....	.....	.....	.....	.....	.....
Sampson	.....	.....	.....	.....	.....	.....	.....	.....	.....	399	32	12.5	b
Sigel	1	911	67	13.6	ae	.....	.....	.....	.....	.....	.....	.....	.....
Tilden	2	1,413	54	23.2	ae	.....	.....	.....	.....	.....	.....	.....	.....
Wheaton	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,860	90	20.7	ab
Totals	18	9,895	512	19.3	.....	2,396	230	10.4	.....	2,836	250	11.3	.....
CLARK CO.—													
Heaver	.....	.....	.....	.....	.....	.....	.....	.....	.....	622	36	17.5	bc
Colby	1	754	25	21.5	ae	.....	.....	.....	.....	.....	.....	.....	.....
Dewhurst	.....	.....	.....	.....	.....	.....	.....	.....	.....	190	38	5.3	c
Eaton	.....	.....	.....	.....	.....	.....	.....	.....	.....	602	70	8.6	ab
Fromont	4	762	38	21.2	e	.....	.....	.....	.....	.....	.....	.....	.....
Grant	4	1,277	36	35.5	e	.....	.....	.....	.....	.....	.....	.....	.....
Green Grove	.....	.....	.....	.....	.....	.....	.....	.....	.....	354	36	9.8	bc
Howitt	.....	.....	.....	.....	.....	.....	.....	.....	.....	292	38	8.1	bc
Hixon	.....	.....	.....	.....	.....	.....	.....	.....	.....	541	36	15.	ab
Hoard	2	525	36	14.6	e	.....	.....	.....	.....	.....	.....	.....	.....
Levis	.....	.....	.....	.....	.....	536	36	15.5	.....	.....	.....	.....	.....
Loyal	.....	.....	.....	.....	.....	.....	.....	.....	.....	895	34	29.3	a
Lynn	2	711	33	19.8	e	.....	.....	.....	.....	.....	.....	.....	.....
Longwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	746	36	20.7	b
Mayville	2	950	35	27.1	ae	.....	.....	.....	.....	.....	.....	.....	.....
Mead	.....	.....	.....	.....	.....	.....	.....	.....	.....	103	72	1.4	b
Mentor	3	1,009	138	9.3	f	.....	.....	.....	.....	.....	.....	.....	.....
Pine Valley	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,130	34	33.2	ab
Reseburg	1	615	36	17.1	c	.....	.....	.....	.....	.....	.....	.....	.....
Sherman	.....	.....	.....	.....	.....	.....	.....	.....	.....	615	36	17.1	bc
Soif	.....	.....	.....	.....	.....	.....	.....	.....	.....	132	33	3.7	b
Sherwood Forest	.....	.....	.....	.....	.....	.....	.....	.....	.....	231	36	6.4	b
Thorp	3	856	36	23.8	ae	.....	.....	.....	.....	.....	.....	.....	.....
Unity	2	853	36	23.8	e	.....	.....	.....	.....	.....	.....	.....	.....
Warner	1	617	36	17.1	ae	.....	.....	.....	.....	.....	.....	.....	.....
Washburn	.....	.....	.....	.....	.....	522	36	14.5	b	.....	.....	.....	.....
Weston	.....	.....	.....	.....	.....	.....	.....	.....	.....	868	36	24.1	.....
Withee	1	1,004	36	28.9	ae	.....	.....	.....	.....	.....	.....	.....	.....
Worden	.....	.....	.....	.....	.....	.....	.....	.....	.....	645	36	17.9	b
York	.....	.....	.....	.....	.....	.....	.....	.....	.....	980	36	27.2	bc
Totals	25	9,935	502	19.8	.....	1,078	72	15.	.....	9,046	642	14.7	.....
COLUMBIA CO.—													
Arlington	1	794	36	22	e	.....	.....	.....	.....	.....	.....	.....	.....
Caledonia	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,188	58	20.5	ab
Columbus	.....	.....	.....	.....	.....	.....	.....	.....	.....	744	32	23.2	a
Courtland	.....	.....	.....	.....	.....	.....	.....	.....	.....	820	35	23.4	ab
Dekorra	1	908	45	20.2	e	.....	.....	.....	.....	.....	.....	.....	.....
Ft. Winnebago	.....	.....	.....	.....	.....	.....	.....	.....	.....	655	35	18.1	a

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Pop. mi.	Note.	Popu- lation.	Area.	Pop. mi.	Note.	Popu- lation.	Area.	Pop. mi.	Note.
COLUMBIA CO.—Con.													
Fountain Prairie	...	...	...	...	...	...	...	...	...	962	34	26.7	ab
Hampden	...	...	...	...	...	...	...	...	...	887	36	24.6	b
Leeds	2	1,214	33	31.5	e	...	...	...	...	...	...	...	...
Lewiston	...	...	...	...	...	901	54	16.7	ab	...	...	...	...
Lodi	...	...	...	...	...	...	...	...	...	750	30	25	ab
Lowville	...	...	...	...	...	784	36	21.8	ab	...	...	...	...
Marcellon	...	...	...	...	...	...	...	...	...	882	38	24.5	a
Newport	...	...	...	...	...	...	...	...	...	583	20	29.2	a
Ostigo	3	1,226	37	35	ae	...	...	...	...	...	...	...	...
Pacific	...	...	...	...	...	...	...	...	...	280	20	14.4	ab
Randolph	...	...	...	...	...	...	...	...	...	951	36	26.4	ba
Scott	...	...	...	...	...	...	...	...	...	811	36	22.5	b
Springvale	...	...	...	...	...	...	...	...	...	751	36	20.9	ab
West Point	...	...	...	...	...	...	...	...	...	743	31	23.9	...
Wycocena	...	...	...	...	...	1,158	36	32.2	a	...	...	...	...
Totals	7	4,142	152	47	...	2,843	126	22.6	...	11,018	477	23.4	...
CRAWFORD CO.—													
Bridgeport	1	357	18	19.8	ae	...	...	...	...	...	...	...	...
Clayton	...	...	...	...	...	...	...	...	...	1,635	73	22.4	ab
Eastman	3	1,471	78	18.9	af	...	...	...	...	...	...	...	...
Freeman	...	...	...	...	...	1,533	95	16.1	bc	...	...	...	...
Haney	2	625	36	17.3	ae	...	...	...	...	...	...	...	...
Marlette	...	...	...	...	...	...	...	...	...	924	61	15.1	ab
Prairie du Chien	...	...	...	...	...	1,004	36	27.9	b	595	40	14.9	ab
Scott	...	...	...	...	...	...	...	...	...	...	...	...	...
Seneca	3	1,200	64	18.8	af	1,548	53	28.1	b	...	...	...	...
Utica	...	...	...	...	...	...	...	...	...	576	45	12.8	ab
Wauzeka	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	9	3,653	193	18.6	...	4,085	186	22	...	3,733	219	17.1	...
DANE CO.—													
Albion	...	...	...	...	...	...	...	...	...	1,580	35	45.1	c
Berry	2	931	36	25.9	e	...	...	...	...	...	...	...	...
Black Earth	...	...	...	...	...	...	...	...	...	330	18	18.3	ab
Blooming Grove	6	1,119	25	44.7	ag	...	...	...	...	...	...	...	...
Blue Mounds	...	...	...	...	...	1,048	31	30.8	bc	...	...	...	...
Bristol	5	1,268	36	35.2	e	...	...	...	...	1,230	36	34.1	ab
Burke	...	...	...	...	...	...	...	...	...	...	...	...	...
Christiana	...	...	...	...	...	773	35	22	ab	...	...	...	...
Cottare Grove	...	...	...	...	...	1,307	33	36.3	bc	...	...	...	...
Cross Plains	9	1,206	36	33.5	e	...	...	...	...	...	...	...	...
Dane	...	...	...	...	...	...	...	...	...	933	35	26.7	ab
Deerfield	3	1,104	34	33.5	ae	...	...	...	...	...	...	...	...
Dunkirk	...	...	...	...	...	1,336	35	43.8	a	...	...	...	...
Dunn	...	...	...	...	...	...	...	...	...	1,135	30	38.5	bc
Fitchburg	...	...	...	...	...	1,004	36	27.8	bc	...	...	...	...
Madison	...	...	...	...	...	1,637	15	104.4	ab	...	...	...	...
Mazomanie	...	...	...	...	...	...	...	...	...	493	30	16.5	ab
Medina	...	...	...	...	...	1,484	36	41.3	bc	...	...	...	...
Middleton	11	1,570	36	43	e	...	...	...	...	...	...	...	...
Montrose	3	997	30	27.7	e	...	...	...	...	881	34	25.9	ab
Oregon	...	...	...	...	...	1,050	36	29.2	e	...	...	...	...
Perry	...	...	...	...	...	...	...	...	...	...	...	...	...
Primrose	...	...	...	...	...	...	...	...	...	817	36	22.7	b
Pleasant Springs	...	...	...	...	...	...	...	...	...	1,453	34	42.7	...
Roxbury	2	966	34	28.4	e	...	...	...	...	...	...	...	...
Rutland	...	...	...	...	...	1,207	36	36	...	...	...	...	...
Springdale	...	...	...	...	...	1,050	36	29.2	bc	...	...	...	...
Sun Prairie	...	...	...	...	...	1,048	36	29.1	bc	1,039	35	29.6	ab
Vienna	...	...	...	...	...	...	...	...	...	...	...	...	...
Verona	2	1,335	36	37.1	f	...	...	...	...	...	...	...	...
Vermont	...	...	...	...	...	826	36	23	b	...	...	...	...
Westport	2	1,472	32	46	ae	...	...	...	...	...	...	...	...
Windsor	...	...	...	...	...	1,585	30	38.5	bc	...	...	...	...
York	...	...	...	...	...	943	33	26.2	b	...	...	...	...
Totals	45	11,951	341	35.1	...	16,318	479	34.1	...	9,021	359	27.7	...

Detailed tables of statistics for towns.—Continued.

TOWNS.	Licenses in Force.					No. License Voted.				No. Application.			
	No.	Popu- lation.	Area.	Pop. ml.	Note.	Popu- lation.	Area.	Pop. ml.	Note.	Popu- lation.	Area.	Pop. ml.	Note.
DODGE CO.—													
Ashippun	3	1,389	36	37.2	e					1,340	28	47.8	ab
Beaver Dam						1,061	36	39.5	be				
Burnett						1,096	36	30.4	be				
Calamus										707	35	20.2	ab
Chester													
Clyman	3	1,236	36	34.8	e	1,006	35	29.6	be				
Elba										1,152	33	34.9	ab
Emmett	1	741	33	22.5	ae								
Fox Lake	4	1,391	39	38.7	e								
He man	1	1,503	34	46	e								
Hubbard	7	1,006	35	45.9	e								
Hustisford	1	1,400	36	40.8	e								
Lehauon	6	1,314	36	37.3	ae								
LeRoy	6	1,500	36	43.3	ae								
Lomira										1,713	41	38.9	ab
Lowell													
Oak Grove	3	1,551	35	44.5	ae								
Portland	1	1,129	45	25.2	e								
Rubicon	4	1,101	36	30.6	ae								
Shields	3	864	25	31.7	e								
Theresa	2	1,433	33	39.8	ae					1,429	53	27	b
Trenton													
Westford	2	909	30	30.3	ae								
Williamstown	2	1,015	35	29	ae								
Totals	54	20,261	560	36.2		3,223	108	29.9		6,341	193	32.8	
DOOR CO.—													
Bailey's Harbor	5	645	27	23.9	e								
Brussels	6	1,267	36	35.8	e					557	15	37.1	b
Clay Banks													
Egg Harbor	3	882	38	23.2	e								
Forestville	4	1,364	36	38	e								
Gardner	4	785	35	22.4	e								
Gibraltar						1,185	33	31.2	be				
Jacksonport	2	913	27	33.8	e								
Liberty Grove	3	1,550	60	25.8	e								
Nasawaupes	3	1,349	43	31.3	ae								
Sevastopol	5	1,607	50	32.2	ae					585	20	19.3	ab
Sturgeon Bay													
Union	2	631	23	27.8	e								
Washington						867	23	37.5	c				
Totals	37	11,021	375	29.9		2,018	61	33.6		1,142	33	32.6	
DOUGLAS CO.—													
Brule	18	1,125	210	5.3	ae					403	540	.7	be
Gordon													
Nebagamon	18	2,271	250	9.1	e								
Superior	8	1,445	298	4.8	ae								
Totals	44	4,841	758	6.4						403	540	.7	
DUNN CO.—													
Colfax						1,083	36	30.1	a				
Dunn						1,410	57	25.6	be				
Eau Gallo						1,247	48	28	e				
Elk Mound						812	36	22.5	be				
Grant										667	36	18.6	
Hay River	2	501	36	13.9	e								
Lucas										885	36	24.6	
Menomonie										1,849	43	43	ab
New Haven						620	36	17.2	be				
Otter Creek										337	36	9.4	be
Peru										375	18	20.8	c
Red Cedar	1	1,481	41	36.2	ae								
Rock Creek										646	36	17.9	c
Sand Creek						609	36	16.9	be				

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No. Applications			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
DUNN CO.—Con.													
Sheridan						569	36	15.8	b				
Sherman										780	36	21.6	b
Spring Brook										1,287	60	21.4	b
Stanton						1,110	36	30.8	bc				
Tainter										479	40	12.0	bc
Tiffany	4	1,219	36	33.8	f					867	42	20.6	
Weston													
Wilson	2	452	36	12.5	g								
Totals	9	3,656	149	24.5		7,560	319	23.7		8,172	385	21.4	
EAU CLAIRE CO.—													
Bridge Creek										1,280	108	11.8	ab
Brunswick						714	36	19.8	a				
Clear Creek										758	36	21.1	b
Drammen										721	36	20	
Fairchild										658	36	18.8	rb
Lincoln	6	1,731	63	27.5	e								
Ludington										874	90	9.7	bc
Otter Creek										729	36	20.3	b
Pleasant Valley						1,000	51	19.5					
Seymour										559	36	15.5	ab
Union						905	34	28.6	a				
Washington										1,322	66	20	ab
Totals	6	1,731	63	27.5		2,619	124	20.3		6,901	443	15.6	
FLORENCE CO.—													
Florence	12	1,824	260	7.0	e								
Commonwealth	2	828	131	6.3	e								
Homestead						545	90	6.1	bc				
Totals	14	2,652	391	6.8		545	90	6.1					
FOND DU LAC CO.—													
alto										1,290	36	35.8	b
Ashford	5	1,120	35	32	ae								
Anburn	4	1,417	36	39.3	o								
Byron						1,234	36	34.3	bc				
Calumet	13	1,443	29	50	e								
Eden	6	1,393	36	39.7	e								
Eldorado						1,363	36	37.9	bc				
Empire						865	30	28.8	b				
Fond du Lac	4	568	30	18.9	ae								
Forest	3	1,206	36	33.5	e								
Friendship	4	464	18	25.7	ae								
Lamarine						1,223	36	34	b				
Marshfield	16	1,992	36	55.2	e								
Metomen	3	1,194	35	31.1	ae								
Oakfield	1	823	35	23.5	ag								
Oscola	5	1,077	36	30	e								
Ripon										1,067	32	36.4	ab
Rosendale										1,106	36	30.7	c
Springvale													
Taycheedah	6	1,293	32	40.5	o	1,180	35	33	b				
Waupun										1,170	35	33.4	ab
Totals	70	13,990	394	35.5		5,874	174	33.7		4,633	139	33.3	
FOREST CO.—													
Canwell						65	290	2	bc				
Crandon						451	180	2.5	bc				
Hiles										135	190	7	bc
Laona	2	286	136	2.7	g								
North Crandon	4	114	170	7	e								
Wabeno	10	342	114	3	e								
Totals	16	742	422	1.8		519	470	1.1		135	190	7	

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
RUSK CO.—													
Atlanta										740	150	4.9	bc
Big Bend	1	404	42	9.6	e								
Dewey	2	156	72	2.1	e								
Flambeau										82	80	1.0	ab
Grant	1	121	72	1.7	ae								
Hawkins & Lawrence	6	490	144	3.3	e					54	72	0.7	bc
Marshall										227	36	6.3	b
Rusk										238	60	4.0	bc
Strickland													
Stubbs	4	760	41	18.5	e								
Thornapple	2	262	92	2.8	ae								
True	3	303	72	4.2	e								
Totals	19	2,499	535	4.7						1,341	398	3.4	
GRANT CO.—													
Heetown	3	1,207	48	25.7	e					630	40	15.7	bc
Bloomington										138	10	13.4	ab
Hoscobel										643	42	15.3	ab
Cassville										603	36	19.2	bc
Castle Rock						1,055	36	29.4	bc				
Clifton						828	36	23	bc				
Ellenboro						795	23	22.7	ab				
Feunimore													
Glen Haven	5	819	37	22.1	e					992	36	27.5	b
Harrison										1,100	36	32.2	ab
Hazel Green										688	36	19.0	b
Hickory Grove													
Jamestown	10	978	31	31.5	e					1,659	72	23.1	ab
Lancaster													
Liberty	2	870	36	21.2	e					1,051	36	29.2	
Lima										566	36	15.7	b
Little Grant										566	35	16.2	b
Marion										268	21	12.7	bc
Millville						671	36	18.6	bc				
Mt. Hope										793	36	22	bc
Mt. Ida										454	33	13.8	ab
Muscoda													
Paris	2	792	36	22	e	660	33	20.0	bc				
Patch Grove										879	36	24.6	ab
Platteville													
Potosi	5	1,568	50	28	ae								
Smelser	3	923	36	25.6	ae	963	42	23.0	bc				
Waterloo													
Watertown	2	474	29	16.4	f					854	36	23.7	a
Wingville													
Woodman	2	438	27	16.2	e								
Wyalusing	2	918	42	21.9	e								
Totals	36	8,987	378	23.8		4,975	218	22.8		12,032	577	20.9	
GREEN CO.—													
Adams										854	36	23.7	
Albany										699	32	21.8	c
Brooklyn						1,188	38	31.3	bc				
Cadiz										1,240	35	35.5	
Clarno										1,226	35	35	b
Decatur										650	35	18.6	a
Exeter	2	917	33	25.5	ae					1,184	36	32.9	c
Jefferson										966	36	26.8	b
Jordan													
Monroe	1	942	34	27.7	ae					761	35	21.8	ab
Mt. Pleasant										525	36	14.6	ab
New Glarus													
Spring Grove						1,021	36	28.4		909	36	25.2	b
Sylvester										768	36	21.4	bc
Washington						1,036	36	28.8					
York													
Totals	3	1,859	70	26.5		3,245	110	29.9		9,782	288	34	

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No. License Voted.				No. Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
GREEN LAKE CO.—													
Berlin										801	30	26.7	a
Brooklyn										933	37	25.8	a
Green Lake						1,288	48	26.8	b				
King-ton	2	770	31	21.8	e					912	35	21.	ab
Mackford													
Manchester	3	1,031	35	28.6	ae								
Marquette	1	872	31	23.1	e					1,123	36	31.2	ab
Princeton										626	33	18.9	b
Ste. Marie										643	31	20.8	bc
Teneca													
Totals	6	2,643	97	27.3		1,288	48	26.8		5,060	202	25.	
IOWA CO.—													
Arena						1,63	78	17.3	bc				
Brigham	2	1,435	66	21.8	g								
Clyde										628	30	20.9	bc
Dodgeville										1,540	90	17.1	ab
Eden										687	44	15.6	ab
Highland	1	1,642	58	28.3	ae								
Linden						1,353	60	22.6	a				
Miffin						1,224	51	24.0	a				
Mineral Point						1,131	61	18.5	a				
Moscow						1,142	42	27.2	bc				
Pulaski	4	1,368	50	27.4	e								
Ridgeway										714	44	16.2	ab
Waldwick						722	42	17.2	c				
Wyoming						791	45	17.6	c				
Totals	7	4,415	174	25.5		7,726	379	20.4		3,569	208	17.2	
IRON CO.—													
Anderson (Vogel)	2	303	84	3.6	e								
Knight	13	1,039	96	11.0	e								
Montreal	3	1,631	40	4.1	e								
Saxon	8	688	118	5.9	e								
Vaughn	50	2,934	440	6.7	e								
Totals	76	6,616	778	8.5									
JACKSON CO.—													
Albion										1,723	80	21.6	a
Alma										734	90	12.2	ab
Bear Bluff										151	54	2.8	b
Brockway										812	108	7.5	ab
City Point	2	323	90	3.6	e								
Cleveland	3	898	36	25.	ae								
Curran						706	37	19.1					
Franklin										715	36	19.8	c
Garden Valley										785	36	21.8	ab
Garfield										775	36	21.5	bc
Hixton						899	36	25.	c				
Irving										878	42	20.9	c
Knapp						342	72	4.8	b				
Manchester						696	62	11.2	bc				
Melrose						1,532	57	26.9	bc				
Millston	2	406	57	8.7	e								
Northfield										1,026	35	29.3	c
Springfield						928	37	25.1	c				
Totals	7	1,629	183	9.0		5,103	301	16.9		7,699	487	15.8	
JEFFERSON CO.—													
Aztalan	1	1,080	27	40.	e								
Cold Spring	1	606	24	25.3	e								
Concord	2	1,236	35	34.3	e								
Farmington	1	1,463	37	39.5	ae								
Hebron	2	1,069	28	38.1	e								
Ixonia	2	1,574	36	33.2	e								

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.				
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	
JEFFERSON CO.—Con														
Jefferson.....	4	1,729	44	39.3	ae									
Koshkonong.....	1	1,475	45	82.8	ae									
Lake Mills.....	1	1,331	32	41.6	ae									
Milford.....	6	1,271	35	86.3	e									
Oakland.....										1,287	36	85.8	b	
Palmyra.....	4	789	35	22.5	af									
Sullivan.....	4	1,239	38	34.4	e									
Sumner.....						555	18	30.8	b					
Watertown.....										1,568	36	40	ab	
Totals.....	29	14,662	415	35.8		555	18	30.8		2,850	73	88		
JUNEAU CO.—														
Armenia.....										801	77	10.4	bc	
Clearfield.....										531	36	14.7	b	
Cutler.....						777	66	5.7	bc					
Finley.....										201	36	5.6	bc	
Fountain.....	3	936	32	29.9	f									
Germantown.....	1	609	45	13.5	e					605	29	20.8	a	
Kildare.....										296	42	7.0	bc	
Kingston.....										1,174	45	26.1	ab	
L'Anse-au-Loup.....						1,036	34	30.5	a					
Lindina.....										576	30	19.2	at	
Lisbon.....										572	29	19.7	c	
Lyndon.....						418	23	18.2	b					
Marion.....														
Necedah.....	9	1,821	85	21.5	e					561	36	15.6	at	
Orange.....										967	34	25.5	ab	
Plymouth.....										812	36	22.5	t	
Seven Mile Creek.....										1,015	36	26.2		
Summit.....														
Wenewoc.....	1	1,407	35	40.2	af									
Totals.....	14	4,793	197	24.3		1,831	123	14.9		8,011	466	17.2		
KENOSHA CO.—														
Brighton.....	2	850	36	23.6	e									
Bristol.....						1,151	30	82	ba					
Paristol.....						818	36	22.7	b					
Pleasant Prairie.....	4	776	13	11.3	ag									
Randall.....	2	784	22	35.6	g									
Salom.....	9	1,846	34	51.3	g									
Somers.....	3	2,014	42	48.7	ag									
Wheatland.....	7	832	24	34.7	f									
Totals.....	27	8,132	301	40.5		1,969	72	27.4						
KEWAUNEE CO.—														
Ahnapee.....	3	1,196	33	36.2	ae									
Carlton.....	6	1,462	36	40.6	e									
Casco.....	6	1,374	36	37.1	e									
Franklin.....	4	1,182	36	41.2	e									
Lincoln.....	6	1,250	36	31.7	e									
Luxemburg.....	12	1,693	36	47.0	e									
Montpelier.....	5	1,517	36	42.0	e									
Pierce.....	2	745	19	39.3	ae									
Red River.....	6	1,367	31	40.2	e									
W. Kewaunee.....	8	1,622	38	42.7	ae									
Totals.....	58	13,701	310	40.3										
LA CROSSE CO.—														
Bangor.....	1	659	35	18.8	ae									
Barre.....	3	548	21	26.1	e									
Burns.....						1,076	50	21.5	ab					
Campbell.....	11	1,078	33	35.7	ag									
Farmington.....	5	1,880	75	25.1	g									
Greenfield.....	3	729	30	21.3	e									
Hamilton.....										1,427	35	26		

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.				
	No.	Popu-lation.	Area.	mi.	Note.	Popu-lation.	Area.	Po. mi.	Note.	Popu-lation.	Area.	Po. mi.	Note.	
LA CROSSE CO.—Con														
Holland	2	1,090	46	21.9	g									
Onalaska						1,041	48	21.7	ab					
Shelby	12	1,084	32	33.9	ae									
Washington	2	761	36	21.2	e									
Totals	39	7,832	308	25.4		2,117	98	21.6		1,427	55	26.		
LA FAYETTE CO.—														
Argyle						777	36	21.6	e	782	40	19.1	ab	
Belmont										489	18	27.2	a	
Benton	1	848	28	30.3	ae									
Blanchard						1,156	46	25.1	a					
Darlington										837	36	23.2	c	
Elk Grove	1	761	36	21.1	e					885	42	16.3	bc	
Fayette						667	20	28.	c					
Kendall										813	20	15.6		
Lamont						779	36	21.6	b	1,200	36	33.3	c	
Monticello										337	17	19.8	bc	
New Diggings	2	1,122	25	45.	f					1,678	52	32.3	e	
Seymour														
Wayne						962	48	20.4	e					
White Oak Springs														
Willow Springs														
Wiota														
Totals	4	2,731	89	30.7		4,261	186	22.9		8,518	321	26.5		
LANGLADE CO.—														
Ackley	2	582	72	8.1	ae					1,120	32	35.	ab	
Antigo						352	69	5.1	bc					
Elcho														
Elton	1	144	120	1.2	e									
Evergreen	3	117	36	3.3	e									
Langlade						173	144	1.2	bc					
Neva	4	788	36	21.9	e									
Norwood	4	793	36	22.	e									
Peck	1	248	36	6.9	e									
Polar	4	790	36	21.1	e									
Pries	3	571	36	15.9	e									
Rolling	5	1,040	36	28.9	ae									
Summit						361	74	4.9	bc					
Upham	3	198	73	2.7	e					161	36	4.5	bc	
Vilas														
Totals	30	5,311	517	10.3		886	287	3.1		1,281	68	18.8		
LINCOLN CO.—														
Birch	1	287	36	8.0	e									
Bradley	3	288	43	6.7	ae									
Corning	3	367	162	3.2	e									
Harrison	2	367	72	5.1	e									
King										148	72	2.1	bc	
Merrill	5	458	45	10.2	ae									
Pine River	2	697	64	10.9	ae									
Rock Falls										414	72	5.7	ab	
Russell	1	365	36	10.1	e									
Schley	4	618	52	12.4	e									
Scott	7	870	122	7.1	ae									
Tomahawk	4	332	108	3.3	e									
Totals	31	4,879	740	6.6						562	144	3.9		
MANITOWOC CO.—														
Cato	5	1,743	36	48.4	g									
Centerville	9	1,443	26	55.5	e									
Cooperstown	9	1,500	36	41.7	e									
Eaton	9	1,317	36	36.6	e									
Franklin	8	1,718	36	47.7	e									

Detailed tables of statistics for towns—Continued.

TOWNS.	Licenses in Force.					No License Voted.				No. Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
MANITOWOC CO.—													
Con.													
Gibson	4	1,498	35	42.7	e								
Koosuth	8	1,739	40	45.	e								
Liberty	6	1,383	31	38.4	e								
Manitowoc	5	562	13	58.6	ae								
Manitowoc Rapids	14	1,517	26	47.7	ae								
Maple Grove	4	1,214	36	53.7	ae								
Meemee	12	1,482	36	41.2	e								
Mishicott	12	1,578	30	52.6	e								
Newton	9	1,770	31	52.1	e								
Rockland	5	1,248	36	34.7	ae								
Schleswig	5	1,385	35	39.6	ae								
Two Creeks	5	632	15	42.1	e								
Two Rivers	5	1,087	34	32.0	ae								
Totals	125	25,276	586	43.2									
MARATHON CO.—													
Bergen	3	552	64	8.6	e								
Berlin	1	1,078	36	30	e								
Bern	1	262	36	7.3	ae								
Brighton	5	539	36	16.6	e								
Cassel	5	1,034	35	29.5	ae								
Cleveland	6	1,000	36	29.4	e								
Day	1	821	62	15.8	e								
Easton	1	827	43	19.2	e								
Eau Claire	1	735	36	20.4	e								
Eldron	2	442	35	12.3	e								
Emmett	4	786	51	15.4	e								
Frankfort	1	568	36	15.8	e								
Franzen	1	126	31	3.2	e								
Halsey										328	36	9.1	ab
Hamburg	3	891	35	24.7	e								
Harrison	1	211	36	5.8	e								
Hewitt	1	287	42	6.8	e								
Holton	1	1,022	36	20.4	ae								
Hull	2	796	36	22.1	e								
Johanson	1	513	36	15.	ae								
Knowlton	1	435	64	6.8	ae								
Kronenwetter	1	434	58	7.5	e								
McMillan	1	832	24	35.4	e								
Maine	5	1,119	54	20.7	ae								
Marathon	1	658	35	19.4	ae								
Mosinee	1	371	32	11.6	ae								
Norrie	4	770	36	21.4	e								
Pike Lake	3	1,022	84	12.2	e								
Plover										302	36	8.4	ab
Rib Falls	5	771	36	21.4	e								
Rietbrock	2	1,016	36	28.3	ae								
Ringle	1	424	36	11.8	e								
Spencer										432	36	12.	ab
Stettin	4	1,110	26	30.8	e								
Texas	1	695	52	13.4	ae								
Wausau	2	1,100	36	30.8	ae								
Weston	9	1,090	70	15.6	ae								
Wien	2	965	35	27.5	e								
Totals	93	25,501	1479	17.2						1,062	106	9.8	
MARINETTE CO.													
Amberg	23	1,375	232	5.9	e								
Crivitz	8	812	144	5.8	e								
Dunbar						1,136	216	5.3	bc				
Grover	4	1,800	61	29.1	e								
Pound	8	2,122	90	23.6	ae								
Portersfield	9	956	90	10.6	ae								
Wausaukee	12	1,685	161	10.1	e								
Peshigo	12	1,910	350	5.5	ae								
Totals	76	10,750	1036	10.4		1,136	216	5.3					

Detailed tables of statistics for towns—Continued.

TOWNS.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
MARQUETTE CO.—													
Buffalo										839	36	23.3	c
Crystal Lake										577	36	16.0	b
Douglas	1	684	35	22.8	e								
Harris	2	556	31	17.9	e								
Mecan										628	28	22.4	b
Montello										313	35	9.8	a
Mon idville						562	36	15.6	bc				
Neshkoro	5	638	24	20.6	e								
Newton										647	36	18.	b
Oxford										659	36	18.3	bc
Packwaukee						852	40	21.3	bc				
Shields	1	693	31	22.5	a								
Springfield										644	36	17.9	bc
Westfield	2	451	31	14.5	ae								
Totals	11	8,027	147	22.3		1,114	76	18.6		4,337	243	17.8	
MILWAUKEE CO.—													
Franklin	8	1,738	33	48.2	o								
Granville	15	2,267	35	64.8	ae								
Greenfield	49	4,980	35	142.	ae								
Lake	43	5,302	20	286.	ae								
Milwaukee	39	4,106	19	216.	ae								
Oak Creek	18	1,950	29	67.2	ae								
Wauwatosa	73	12,200	29	421.	ae								
Totals	245	32,543	215	118.									
MONROE CO.—													
Ardrian										631	36	17.5	
Angelo						710	36	19.7					
Byron						823	36	22.9	bc				
Clifton	2	993	35	27.6	e								
Glendale										1,051	36	29.2	ab
Grant										499	36	13.9	bc
Greenfield						712	36	16.8	c				
Jefferson	4	1,223	36	33.9	ae								
Lafayette										438	36	12.2	bc
La Grange										1,141	36	31.7	a
Leon						787	36	21.9	bc				
Lincoln										833	36	24.	c
Little Falls	1	1,222	68	17.9	g								
New Lyme										206	36	5.7	b
Oakdale	1	682	36	18.9	e								
Portland						1,194	36	33.2	bc				
Ridgeville										924	36	26.4	a
Scott										258	36	16.1	c
Sheldon						821	36	22.8	b				
Sparta										1,263	52	21.3	ab
Tomah										744	35	21.3	ab
Wellington										1,091	36	30.3	a
Wells										717	36	19.9	b
Wilton										895	35	25.6	ab
Totals	8	4,120	176	23.4		5,049	216	25.4		10,721	517	20.7	
OCONTO CO.—													
Armstrong	4	482	312	1.5	e								
Bread	2	268	34	7.4	e								
Brazeau	2	437	72	6.1	e								
Chase										823	36	23.	b
Gillette										834	36	23.2	ab
Howe	9	815	36	22.6	o								
Lena	11	894	36	24.8	e								
Little River	4	1,042	48	21.7	e								
Little Waunago	6	944	37	25.5	e								
Maple Valley										870	72	12.1	
Morgan	2	648	38	18.	e								
Oconto	2	1,042	42	24.8	ae								

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
OCONTO CO.—Con.													
Oconto Falls										358	36	9.9	ab
Pensaukee	5	1,768	74	23.9	e								
Spruce	5	1,029	36	28.5	e								
Stiles	5	897	36	24.9	e								
Totals	57	10,266	801	12.8						2,888	180	16.0	
ONEIDA CO.—													
Cassian										225	30	2.5	bc
Crescent	3	237	33	7.2	e								
Gagen	6	554	171	3.2	e								
Hazelhurst	1	1,153	234	4.9	e								
Lynne						45	144	3	bc				
Moulco*	3				e								
Newbold	1	258	129	2.0	ae					461	104	4.4	ab
Pelican										425	115	4.2	ab
Pine Lake*													
Sugar Camp										425	115	4.2	ab
Schoepke	8	299	108	2.8	e					160	6	4.4	bc
Woodboro													
Totals	21	2,501	675	3.7		45	144	0.3		1,331	345	3.9	
OUTAGAMIE CO.—													
Black Creek	2	937	36	26.1	ae					542	36	13.0	ab
Bovina													
Buchanan	9	2,066	24	87.3	ae								
Center	7	1,458	36	40.4	e					1,103	36	30.6	b
Cicero													
Dale	7	1,273	30	42.4	e								
Deer Creek						882	36	24.5	ab				
Ellington	1	1,188	36	32.9	e								
Freedom	4	1,664	36	46.2	e								
Grand Chute	4	1,722	35	49.3	ae								
Greenville	3	1,342	36	37.3	e								
Hortonia										654	22	23.7	ab
Kaukauna										765	18	42.5	ab
Liberty										599	32	18.7	ab
Maine						610	36	17.1	c				
Maple Creek	1	800	22	36.3	ae								
Osborne										656	16	41.0	ab
Seymour	4	1,141	32	55.7	ae								
Vandenbruck										714	12	39.5	ab
Totals	42	13,621	323	42.2		1,468	72	20.8		5,033	172	29.3	
OZAUKEE CO.—													
Belgium	11	1,517	36	42.9	e								
Cedarburg	7	1,450	29	50.0	ae								
Fredonia	11	1,652	36	45.9	e								
Grafton	1	1,000	22	18.2	ae								
Mequon	18	2,792	48	58.2	e								
Pt. Washington	2	1,081	21	51.4	ae								
Saukville	10	1,067	36	45.3	e								
Totals	60	11,219	228	40.3									
PEPIN CO.—													
Albany										630	36	18.0	
Durand										267	20	13.4	a
Frankfort										877	30	29.2	bc
Lima										743	36	30.6	c
Pepin	3	1,112	47	24.3	e					430	16	26.9	ab
Stockholm						1,522	34	44.8	ab				
Waterville										168	12	14.0	a
Waubeck													
Totals	3	1,112	47	24.3		1,522	34	44.8		3,135	150	30.9	

* Not reported.

Detailed tables of statistics for towns—Continued.

TOWNS.	Licenses in Force.					No License Voted.				No. Application.			
	No.	Popu- lation.	Area.	Po. ml.	Note.	Popu- lation.	Area.	Po. ml.	Note.	Popu- lation.	Area.	Po. ml.	Note.
PIERCE CO.—													
Clifton						106	17	29.7	bc	631	36	17.5	a
Diamond Bluff										1,481	36	41.2	a
Ellsworth						1,084	36	30.1	bc				
El Paso						1,378	36	38.3	c	1,182	36	32.8	bc
Gilm in										1,187	41	29.0	ab
Hartland						447	10	44.7	bc	788	40	19.7	a
Isabelle										1,234	46	27.3	a
Malden Rock						1,277	36	35.5	c	1,081	36	32.8	bc
Martell													
Oak Grove						1,270	36	35.3	bc				
River Falls						1,200	36	33.4	c				
Rock Elm													
Salem													
Spring Lake	4	965	26	37.1	f					1,505	36	41.8	bc
Union	4	1,478	36	41.1	e								
Totals	8	2,443	62	19.4		7,162	207	34.6		9,109	307	29.7	
POLK CO.—													
Alden						1,440	60	24.0	bc	512	36	14.2	bc
Apple River										506	36	13.9	ab
Balsam Lake	2	757	36	21.0	g					899	36	25.0	
Beaver										166	36	48.8	bc
Black Brook										752	36	20.9	ab
Hone Lake	2	340	36	9.2	f					1,042	52	20.0	bc
Clam Falls	3	826	36	23.2	ae								
Clayton										211	36	5.9	c
Clear Lake						831	36	18.1	bc	138	36	3.8	c
Eureka													
Farmington	1	1,059	45	25.7	f								
Garfield													
Georgetown						811	36	22.5	bc				
Johnstown						1,010	42	24.0	ab	267	36	7.4	b
Laketown										110	36	3.1	c
Lincoln						526	36	14.6	c				
Lorraine													
Luck						671	36	18.6	bc				
McKinley						847	42	20.2	ab	361	34	10.6	ab
Milltown										89	36	2.5	ab
Oscoda													
St. Croix Falls	2	735	65	11.3	e								
Sterling													
W. Sweden													
Totals	10	2,727	218	12.5		6,136	288	21.3		5,252	446	11.8	
PORTAGE CO.—													
Alban						878	36	24.4	bc				
Almond						1,080	36	30.0	c				
Amherst	5	1,425	35	40.7	ag								
Belmont						781	36	21.7					
Buena Vista						1,102	55	20.0	bc				
Carson	6	1,505	60	25.1	ae								
Dewey	2	754	47	14.0	e					1,086	58	18.7	b
Eau Claire													
Grant	1	557	54	10.3	e								
Hull	2	1,469	40	36.7	ae								
Lanark										825	36	22.9	bc
Linwood										677	32	21.2	ab
New Hope						962	36	26.7	bc				
Pine Grove						565	36	18.7	bc				
Plover	7	1,611	73	22.1	ae								
Sharon	10	2,225	72	30.9	e								
Stockton	10	1,499	36	52.5	e								
Totals	43	11,445	417	27.5		5,368	235	22.8		2,588	126	20.5	

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Pop. mi.	Note.	Popu- lation.	Area.	Pop. mi.	Note.	Popu- lation.	Area.	Pop. mi.	Note.
PRICE CO.—													
Brannan	2	234	33	7.1	e	523	42	12.4	bc				
Catawba	2	98	32	3.0	e								
Eisenstein										371	73	5.1	b
Emory	5	373	253	1.5	e					249	63	2.9	b
Fifield						219	71	3.1	ab				
Georgetown						242	38	6.7	b				
Hackott										143	42	3.4	ab
Hill						411	48	8.6	bc				
Kennan										131	72	1.8	ab
Knox						972	150	6.5	ab	519	53	9.8	a
Lake													
Omega													
Prentice	3	1,179	288	4.1	ae								
Worcester													
Totals	12	1,844	608	3.1		2,367	305	7.8		1,413	303	4.7	
RACINE CO.—													
Burlington	1	1,032	42	25.0	ae								
Caledonia	17	2,805	49	57.2	ae								
Dover	3	853	36	23.7	e								
Mt. Pleasant	6	2,911	45	64.7	ag								
Norway	4	1,601	36	44.5	e	913	36	25.4	bc				
Raymond	2	750	18	41.6	e								
Rochester	2	750	18	41.6	e								
Waterford	12	1,561	36	43.4	e								
Yorkville						1,047	36	29.1	ab				
Totals	45	11,536	232	44.0		1,960	72	27.2					
RICHLAND CO.—													
Akan						916	36	25.4					
Albion						1,261	36	35.0	bc				
Buewa Vista						1,104	41	26.9	ab				
Dayton						1,006	36	27.9	c				
Eagle						833	36	23.1	a	1,008	25	27.9	e
Forest													
Henrietta	9	1,140	36	31.7	e					916	36	25.5	e
Ithaca										912	36	25.3	e
Marshall										922	36	26.7	c
Orion										891	34	26.3	c
Richland						1,299	43	30.2	bc				
Richwood										991	36	27.5	bc
Rockbridge										926	36	25.7	c
Sylvan										741	36	20.6	ab
Westford						1,087	36	30.2	bc				
Willow													
Totals	9	1,144	36	31.7		7,536	261	28.4		7,345	285	25.7	
ROCK CO.—													
Avon						728	31	23.5	ab	773	33	21.7	
Beloit						919	36	25.5	bc				
Bradford										1,093	33	30.3	bc
Center										1,011	37	28.9	a
Clinton						1,417	33	42.8	a				
Fulton										1,112	35	31.7	a
Harmony						1,132	32	35.3	ab				
Janesville										132	36	25.9	
Johnstown										943	36	26.2	ab
La Prairie										1,030	36	28.6	bc
Lima										1,051	36	29.2	c
Magnolia						2,552	36	70.8	c				
Milton										966	36	26.8	b
Newark													
Plymouth	4	1,349	39	37.4	f								
Porter						1,225	36	31.0					
Rock	1	958	34	26.6	ae								

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Pop. ml.	Note.	Popu- lation.	Area.	Pop. ml.	Note.	Popu- lation.	Area.	Pop. ml.	Note.
ROCK CO.—Con.													
Spring Valley										1,446	36	40.2	ab
Turtle										1,076	36	29.9	a
Union										945	34	27.8	c
Totals	5	2,367	70	32.9		7,973	204	39.1		12,375	428	28.9	
ST. CROIX CO.—													
Baldwin						1,385	36	38.7	ab				
Cady										1,099	36	30.5	b
Clyon						991	36	27.5	b				
Eau Claire	3	767	36	21.3	e					1,084	36	30.2	c
Emerald	3	820	36	22.8	e								
Erin Prairie						440	36	12.5	b				
Forest	2	758	36	21.1	e								
Glenwood						844	36	23.4	ab				
Hammond	1	849	42	20.2	ae	679	36	18.7	a				
Hudson						426	18	23.7					
Kinnickinnic						720	36	20.0	ab				
Pleasant Valley										582	18	32.3	c
Richmond	4	1,024	34	30.2	e								
Rush River	2	1,451	52	28.0	g								
St. Joseph	2	1,419	36	39.4	g								
Somers						780	36	21.7	ab				
Springfield						436	35	26.7	ab				
Stanton										735	43	17.1	ab
Star Prairie						815	36	22.6	bc				
Troy													
Warren													
Totals	17	7,068	272	26.1		8,026	341	23.9		3,500	133	26.3	
SAUK CO.—													
Baraboo						1,464	27	54.2	ab				
Bear Creek										978	50	19.5	b
Diana										628	36	17.3	
Delton						916	36	24.1	a				
Excelsior										954	36	26.5	ab
Fairfield	7	1,114	50	22.3	e					897	34	20.5	
Franklin	2	962	42	22.9	o								
Freedom										924	36	25.6	a
Greenfield	2	903	48	20.7	o								
Honey Creek						1,362	36	37.8	bc				
Ironston						1,063	36	29.5	a				
La Valle										615	26	23.7	c
Merrimac	1	541	32	16.9	ae	1,204	34	35.4	ab				
Prairie du Sac						856	43	19.3	ab				
Reedsburg										724	36	19.0	b
Spring Green						950	52	18.2	bc				
Sumpter	3	1,228	36	34.1	e								
Troy	4	1,265	30	35.7	e								
Washington						813	36	22.6	c				
Westfield						1,227	36	34.1	c				
Winfield													
Woodland													
Totals	19	6,121	244	25.1		9,655	338	28.6		5,516	236	20.6	
SAWYER CO.—													
Hayward	13	2,720	1224	2.2	e								
Totals	13	2,720	1224	2.2									
SHAWANO CO.—													
Almon	1	700	72	9.7	e								
Angelica	9	1,290	36	25.0	o								
Aniwa										332	34	15.7	ab
Helle Plains	2	997	36	27.7	ae								
Birnamwood	4	785	36	21.8	ae								
Fairbanks	2	923	36	25.7	ae								

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
SHAWANO CO.—Con.													
Germania.....										308	36	8.5	bc
Grant.....	3	1,169	36	32.4	e								
Green Valley.....	6	1,037	36	28.8	e								
Hartland.....	6	1,442	36	40.0	e								
Herman.....	8	1,111	4	20.6	e								
Hutchins.....										630	36	17.5	ab
Lessor.....	1	1,111	36	30.9	e								
Maple Grove.....						1,814	31	50.4	bc				
Morris.....						689	36	19.1	bc				
Navarino.....										413	36	11.5	b
Pella.....		930	36	25.8	e								
Richmond.....		823	32	25.7	ae								
Seneca.....	29	515	36	14.6	e								
Washington.....	6	1,322	37	35.7	e								
Waukechon.....	2	940	36	26.1	ae								
Wescott.....										282	24	11.7	ab
Wittenberg.....	1	1,011	36	28.1	ae								
Totals.....	57	16,076	627	25.7		2,503	72	31.8		2,165	166	12.0	
SHEBOYGAN CO.—													
Greenbush.....	3	1,639	48	35.2	e								
Herman.....	9	1,940	36	33.8	e								
Holland.....	5	2,551	44	53.0	e								
Lima.....	6	1,949	36	54.1	e								
Lyndon.....	11	1,732	36	48.2	e								
Mitchell.....	2	974	36	27.1	e								
Mosel.....	4	885	22	40.2	e								
Plymouth.....										1,388	36	38.9	ab
Rhine.....	1	1,285	36	35.7	e								
Russell.....	1	437	24	18.2	e								
Scott.....	5	1,432	36	39.8	e								
Sheboygan.....	14	2,181	23	94.8	e								
Sheboygan Falls.....	4	1,690	36	46.9	e								
Sherman.....	15	1,813	36	50.3	e								
Wilson.....	3	1,078	25	43.1	e								
Totals.....	89	21,636	474	45.7						1,388	36	38.9	
TAYLOR CO.—													
Aurora.....										106	108	1.0	b
Browning.....	1	370	36	10.3	e								
Chelsea.....	5	787	42	18.7	e								
Cleveland.....	3	231	108	2.1	e								
Deer Creek.....	4	775	36	21.5	e								
Greenwood.....										394	51	7.9	bc
Grover.....	1	333	72	4.6	e					216	35	6.0	b
Goodrich.....													
Hammel.....	1	389	36	10.8	e								
Holway.....	1	318	72	4.3	e								
Little Black.....	6	1,331	36	37.0	e								
Medford.....	5	1,391	40	34.9	ae								
Molitor.....						112	36	3.1	b				
Rib Lake.....										572	80	7.1	ab
Westboro.....	8	1,060	198	5.	f								
Totals.....	35	6,978	676	10.3		112	36	3.1		1,288	275	4.7	
TREMPEALEAU CO.													
Albion.....										756	36	21.0	
Arcadia.....										2,641	120	22.0	a
Burnside.....										938	36	26.1	a
Caledonia.....						345	22	15.7	b				
Chimney Rock.....										963	36	26.7	c
Dodge.....	4	495	21	21.6	e								
Etttrick.....						1,969	76	25.9	e				
Gale.....										1,384	62	23.3	ab
Hale.....										1,773	70	25.3	c
Lincoln.....										786	30	26.2	a

Detailed tables of statistics for towns—Continued.

TOWNS.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
TREMPEALEAU CO.—Continued.													
Pigeon .....	..	..	..	..	..	..	..	..	..	1,209	38	31.8	c
Preston .....	..	..	..	..	..	..	..	..	..	1,893	60	28.2	a
Summer .....	..	..	..	..	..	..	..	..	..	767	36	21.3	ab
Trempealeau .....	..	..	..	..	..	..	..	..	..	1,152	56	30.6	ab
Unity .....	..	..	..	..	..	989	36	27.5	c	..	..	..	..
Totals	4	495	21	23.6	..	3,303	134	21.7	..	14,062	580	24.3	..
VERNON CO.—													
Bergen	1	804	50	16.1	as	..	..	..	..	..	..	..	..
Christiana .....	..	..	..	..	..	1,264	36	35.1	c	1,214	36	33.7	bc
Clinton .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Coon .....	..	..	..	..	..	1,324	36	36.8	bc	..	..	..	..
Forest .....	..	..	..	..	..	1,250	36	34.7	bc	..	..	..	..
Franklin .....	..	..	..	..	..	..	..	..	..	1,237	52	23.8	..
Genoa	1	1,077	36	29.9	g	..	..	..	..	1,027	36	28.6	..
Greenwood .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Hamburg .....	..	..	..	..	..	1,070	36	29.7	bc	..	..	..	..
Harmony .....	..	..	..	..	..	..	..	..	..	1,108	42	26.3	..
Hillsboro .....	..	..	..	..	..	..	..	..	..	1,182	36	32.8	ab
Jefferson .....	..	..	..	..	..	..	..	..	..	1,543	48	32.3	c
Kickapoo .....	..	..	..	..	..	874	38	23.0	c	..	..	..	..
Liberty .....	..	..	..	..	..	..	..	..	..	539	23	23.4	..
Stark .....	..	..	..	..	..	907	35	25.9	bc	..	..	..	..
Sterling .....	..	..	..	..	..	..	..	..	..	1,187	48	24.7	bc
Union .....	..	..	..	..	..	..	..	..	..	849	36	23.6	..
Viroqua .....	..	..	..	..	..	1,862	48	38.8	c	..	..	..	..
Webster .....	..	..	..	..	..	..	..	..	..	1,123	36	31.2	c
Wheatland .....	..	..	..	..	..	668	28	23.8	a	..	..	..	..
Whitestown	1	914	35	26.1	e	..	..	..	..	..	..	..	..
Totals	3	2,795	121	23.1	..	9,219	243	31.5	..	11,014	893	28.0	..
VILAS CO.—													
Arbor Vire .....	..	..	..	..	..	1,618	180	9.0	bc	..	..	..	..
Eagle River	12	1,356	495	2.7	e	..	..	..	..	..	..	..	..
Flambeau .....	..	..	..	..	..	352	144	2.4	b	..	..	..	..
Minoqua	14	942	144	6.5	e	..	..	..	..	..	..	..	..
Totals	26	2,298	639	3.6	..	1,970	324	6.1	..	..	..	..	..
WALWORTH CO.—													
Bloomfield .....	..	..	..	..	..	..	..	..	..	672	35	19.2	bc
Darien	3	1,371	36	38.1	f	..	..	..	..	..	..	..	..
Delevan	9	993	35	28.4	ae	..	..	..	..	1,191	34	35.1	ab
East Troy	2	900	35	25.7	ae	..	..	..	..	924	36	25.7	ab
Geneva .....	..	..	..	..	..	..	..	..	..	882	36	24.5	b
LaFayette .....	..	..	..	..	..	..	..	..	..	..	..	..	..
La Grange .....	..	..	..	..	..	1,082	35	30.9	b	..	..	..	..
Linn .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Lyons	3	1,238	36	36.1	af	..	..	..	..	776	36	21.4	bc
Richmond .....	..	..	..	..	..	..	..	..	..	1,127	35	32.2	ab
Sharon .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Spring Prairie .....	..	..	..	..	..	1,126	36	31.3	bc	..	..	..	..
Sugar Creek .....	..	..	..	..	..	..	..	..	..	931	35	26.6	ab
Troy	2	1,018	36	28.3	e	..	..	..	..	..	..	..	..
Walworth	5	1,290	36	35.8	f	..	..	..	..	..	..	..	..
Whitewater .....	..	..	..	..	..	..	..	..	..	806	34	23.7	ab
Totals	24	6,870	214	32.1	..	2,308	71	31.1	..	7,303	281	26.0	..
WASHBURN CO.—													
Bashaw .....	..	..	..	..	..	..	..	..	..	581	95	6.1	b
Brooklyn .....	..	..	..	..	..	..	..	..	..	124	38	3.3	bc
Chicago .....	..	..	..	..	..	..	..	..	..	94	36	2.6	b
Casey .....	..	..	..	..	..	..	..	..	..	154	46	3.3	b

* Open summer only.

Detailed tables of statistics for towns—Continued.

TOWNS.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
WASHBURN CO.—													
Continued.													
Gull Lake										91	36	2.6	b
Long Lake	1	231	54	4.3	e								
Loomis	2	363	90	4.1	e								
Mills	3	363	40	9.2	e								
Mioug	3	406	144	2.8	e								
Saronia	1	146	36	4.1	e								
Shell Lake	8	1,002	31	32.3	e								
Spooner										334	66	4.6	ab
Sinnett										223	108	2.1	bc
Voazie	2	278	36	7.7	e								
Totals	20	2,799	431	6.5						1,590	425	3.7	
WASHINGTON CO.—													
Addison	16	1,810	36	50.2	e								
Hartou	8	1,360	24	52.4	ae								
Erin	4	1,200	36	33.3	e								
Farmington	5	1,461	36	40.5	e								
German town	13	1,957	36	53.7	e								
Hartford	3	1,334	35	38.7	ao								
Jackson	4	1,760	36	48.8	e								
Kewaskum										851	24	35.5	ab
Polk	4	1,554	76	43.2	ao								
Richfield	10	1,617	36	44.8	e								
Trenton	8	1,572	36	43.7	e								
Wayne	5	1,419	36	38.6	e								
West Bond	9	843	22	38.3	ae								
Totals	89	17,759	405	43.8						851	24	35.5	
WAUKESHA CO.—													
Brookfield	14	2,174	36	60.4	e								
DeLaford	9	1,250	36	34.7	ae								
Eagle										744	35	21.3	ab
Genesee	4	1,181	36	41.2	e								
Lisbon	5	1,510	36	41.9	e								
Menomouie	8	2,178	36	60.5	ae								
Merton	12	1,520	36	42.5	e								
Mukwonago	5	1,253	36	35.1	e								
Muskego	15	1,509	36	57.5	e								
New Berlin	6	1,579	36	43.8	e								
Oconomowoc	8	1,230	36	36.9	ae								
Ottawa	2	883	10	24.5	e								
Pewaukee	4	1,108	36	47.4	ao								
Summit	1	1,255	35	35.4	ao								
Vernon						1,015	36	28.2	ab	1,307	36	38.0	bc
Waukesha													
Totals	93	19,510	468	41.7		1,015	36	28.2		2,051	71	28.9	
WAUPACA CO.—													
Bear Creek	1	1,257	36	34.9	e								
Caledonia	3	904	28	32.3	e					891	36	24.7	
Dayton										1,013	34	29.8	ab
Dupont													
Farmington						1,522	36	42.3	a	425	20	21.2	ab
Fremont													
Harrison						453	36	12.6	bc	518	36	14.4	b
Helvetia													
Iola						804	36	22.3	e				
Larrabee										1,398	35	40.0	ab
Lebanon										939	36	26.1	ab
Lind						1,096	36	10.5					
Little Wolf										1,421	34	41.7	ab
Matteson										867	36	24.1	ab
Mukwa										956	33	20.0	ab
Royalton	3	1,272	36	35.3	ae								

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License Voted.				No Application.			
	No.	Popu- lation.	Area.	Popu- lation.	Note.	Popu- lation.	Area.	Popu- lation.	Note.	Popu- lation.	Area.	Popu- lation.	Note.
WAUPACA CO.—Con.													
St. Lawrence						1,178	36	32.7	c				
Scandinavia										921	36	25.6	bc
Union	3	1,309	36	36.3	e					990	32	30.0	ab
Waupaca						579	23	25.2	ab				
Weyauwega													
Wyoming	4	479	36	13.8	e								
Totals	14	5,239	172	30.4		5,672	203	27.7		10,309	368	28.0	
WAUSHARA CO.—													
Aurora						1,025	36	39.5	bc				
Bloomfield	4	1,256	36	34.9	e								
Coloma	3	827	36	23.0	e								
Dakota	1	543	36	15.1	e								
Deerfield										656	36	18.2	b
Hancock										630	36	18.1	ab
Leon										626	36	22.9	bc
Marion						654	36	18.2	bc				
Mt. Morris										658	36	18.2	c
Oasis										826	36	22.9	
Plainfield										921	26	25.6	a
Poyssippi						1,046	33	31.7	bc				
Richford	1	591	36	16.4	e					453	36	12.0	c
Rose										827	36	23.0	bc
Saxeville						653	36	18.1					
Springwater										456	36	12.1	ab
Warren	6	476	36	13.5	af								
Wautoma													
Totals	15	3,693	180	20.5		3,378	141	23.9		6,233	324	19.2	
WINNEBAGO CO.—													
Algoma	1	840	19	43.2	ae								
Black Wolf	1	778	17	45.8	e								
Clayton						1,161	36	32.3	bc				
Menasha	1	646	15	43.0	ae					533	15	35.6	ab
Neeah													
Nekimi						990	30	33.0	b				
Nepesiskum										639	29	32.4	c
Oniro										1,163	28	41.5	ab
Oshkosh	2	1,812	19	95.5	ae								
Poygan										742	24	30.9	b
Rushford						1,632	35	47.2	c				
Utica						967	36	26.8	c				
Vinland										1,018	29	35.0	bc
Winchester										1,041	36	28.9	b
Winneconne	2	746	27	27.6	ae								
Wolf River	3	970	32	30.3	e								
Totals	10	5,792	129	44.8		4,770	137	34.8		5,436	161	33.7	
WOOD CO.—													
Arpin	2	675	36	18.7	e					959	36	26.6	ab
Auburndale										200	9	22.2	ab
Cameron													
Cary	1	169	36	4.7	e					213	44	4.8	bc
Craunmoor													
Dexter						458	36	12.4	bc				
Grand Rapids	6	825	33	25.0	ae								
Hansen (Vesper)	2	665	36	18.4	e								
Hiles	1	104	36	2.9	e								
Lincoln	3	1,128	36	31.4	ae								
Marshfield	5	881	18	49.0	ae								
Milladore	9	1,025	36	28.5	e								
Pt. Edwards										582	43	13.5	a
Remington	4	638	72	8.9	e								
Richfield	1	571	36	15.8	e								
Rock						823	36	22.9	bc				
Rudolph	3	1,046	31	33.7	ae								

Detailed tables of statistics for towns—Continued.

Towns.	Licenses in Force.					No License V. ted.				No Application.			
	No.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.	Popu- lation.	Area.	Po. mi.	Note.
WOOD CO.—Con.													
Saratoga .....	...	...	...	...	...	...	...	...	...	416	49	8.5	bc
Seneca .....	...	...	...	...	...	...	...	...	...	331	30	11.0	ab
Sherry	1	618	36	17.1	e	...	...	...	...	...	...	...	...
Sigel	2	1,483	36	41.2	ae	...	...	...	...	...	...	...	...
Vesper (Hausen) .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Wood	1	457	31	13.4	s	...	...	...	...	...	...	...	...
Totals	41	10,285	512	20 1	....	1,281	72	17.8	....	2,701	211	12.8	....

PART IV.

THE HOUSING PROBLEM IN WISCONSIN

Inspection and Report in compliance with Chapter 203,
Laws of 1903.



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PREFACE.

The present report upon housing conditions in the city of Milwaukee is the result of the law passed by the State Legislature of 1903 calling for an inspection of, and report upon the building and care of tenement houses. The law is as follows:—

CHAPTER 203, LAWS OF 1903,

Authorizing the Commissioner of Labor, Factory Inspectors and State Board of Health to Inspect Tenement Houses.

Section 1. The commissioner of labor statistics and the inspectors employed in his department are hereby authorized at all reasonable hours to inspect tenement houses for the purpose of ascertaining the sanitary condition of such buildings and also to ascertain whether or not the same are crowded so as to seriously interfere with the health of the occupants; to ascertain whether or not a sufficient quantity of wholesome water is introduced into such buildings and proper provisions made for closets and other conveniences necessary to preserve the health of the occupants. Like authority is also conferred upon the state board of health and the several boards of health in the cities of the state.

Section 2. It shall be the duty of the commissioner of labor statistics to embody a report of his investigation in his next biennial report and make such recommendations as to building tenement houses as will tend to preserve the health of the occupants of such buildings.

Owing to the large amount of regular work devolving upon the department of labor statistics, and some special investigations already begun by the department it was impossible to begin the tenement investigation at once. But in the early part of the year 1905 plans were formulated and an inspector appointed to carry on the work. For several months only a part of

the time could be given to this work, but during that time a general study of the subject was made; the building and sanitary regulations of foreign and American cities, including Milwaukee, were investigated and compared; the local departments of Health, Police, Fire and Building Inspection were called upon for information bearing on the subject of tenement houses in Milwaukee; and Inspection Report blanks were prepared covering the general elements of the tenement problem and the special phase presented in Milwaukee, that being the only city of the first class in the state.

It was not until the middle of the summer that the entire time of the inspector could be given to tenement investigation, at which time a house to house canvass was begun which was carried on until December, 1905. Those districts were chosen in which overcrowding or insanitary conditions were known or supposed to exist, and special attention was given to buildings which would properly be classed as tenement houses. Although under the law the better class of flat and apartment buildings are tenement houses, it was not believed to have been the intent of the Legislature to include that class in the present investigation. A statistical table is included, however, showing the increase in size and number of such buildings in the city of Milwaukee.

The short discussion of tenement conditions in foreign cities is embodied in this report to show that where preventive measures were not used in time, remedial action was absolutely necessary later, among progressive nations. Statements concerning tenement conditions in foreign cities are based upon personal investigation made in 1901 and 1903.

The discussion of tenement conditions in American cities includes only a few of the larger cities presenting housing problems. These cities, as well as several others, are investigating their housing problems with the intention of securing reformed building and housing regulations. Statements concerning housing conditions in American cities are based upon personal investigation made in 1901, 1903 and 1906.

New York City furnishes an impressive object lesson. There tenement evils began earliest and proceeded farthest without any, and later, without proper regulation, until the number of insanitary tenements increased to such proportion that when the present tenement house law was passed, the

evils already crystallized into brick and mortar formed an insurmountable barrier to the adoption of full and adequate requirements regarding changes to be made in old tenement houses.

As this report is intended primarily for use in securing legislative action concerning the building, altering, sanitary regulation and inspection of tenement houses and other buildings so occupied for living purposes that local evils stand as a menace to the whole community, an attempt is made to include in the Appendix certain material which can be used in judging present conditions and other material which can be used as a guide for future regulations.

An expression of thanks is due to the various cities and states which have furnished information concerning local sanitary and building regulations, as is also an acknowledgment of the courtesy of the Departments of Health and Building Inspection of Milwaukee in furnishing ready access to the records of those offices. Thanks are due also to Mr. Joe Derfus and Mr. Felix Michalak of the Milwaukee Health Department for efficient assistance at various times in the local housing investigation.

THE HOUSING PROBLEM IN WISCONSIN.

INTRODUCTION.

THE TENEMENT HOUSE PROBLEM.

One of the greatest social problems arising with the development of industrial life and the concentration of population in cities is that of the housing of the working people and the poor. For years this question has commanded the serious study of men of intellect and humanitarian impulses. Municipalities, when finally awakened to the conditions in their midst and the problem which confronted them, have set at work the machinery of legislation to mitigate the evils already existing and prevent the growth of others. Such action is not necessarily philanthropy. It does not need to await the development of the altruistic spirit in men. Self-interest, if no other exists, ought to be enough to prompt it. This is not alone the problem of the working people; it is the problem of every citizen in every city, especially those cities governed by democratic rule. Healthy home life is necessary to make good men, and also good citizens. And it seems hardly necessary to point out that the standard of living and the code of morals of the citizens determine the government, health and morals of the city.

The home problem is the housing problem. And the housing problem is not solved merely by providing shelter. The vital element is the kind of shelter provided. Herding people together under one roof, in conditions easily conducive to disease and crime is to complicate the problem and increase the burden which society will inevitably have to bear. It is only where home-life is made secure, healthful and moral that the best childhood, manhood and womanhood can develop.

Both in England and America housing conditions have been the subject of investigation since the early part of the 19th century, and with the growth of cities have called more and more for extensive as well as intensive study. In America, New York City produced the earliest and worst form of tenement dwelling; and with the growth of the city, the increase of immigration, the congestion of population, and, from 1879 to 1901, the erection of the six story building on the twenty-five foot lot as the uniform type of tenement dwelling, New York City today presents the worst tenement conditions in the world.

This type of narrow tenement dwelling, 5, 6, 7, even 11 and 12 stories high, with air shafts often less than 2 feet 4 inches wide (the minimum required by the old law of New York) is quite uncommon in the larger foreign cities. In England, for instance, the poorer population occupy, for the most part, two and three story houses, too often old and insanitary, but sheltering fewer people on a limited space of ground. This is true of London as well as of Manchester, Birmingham, Liverpool and other cities. In the larger continental cities such as Paris, Vienna and Berlin the poorer classes live in much higher buildings which approach nearer to the New York type although not often built on so narrow a lot. It is in the two Scotch cities, Edinburgh and Glasgow, that one finds the type of tenement house so common in New York. In these two cities much idleness and drunkenness among the poorer population have increased the difficulty of solving the tenement problem.

In the main, the over-crowding in foreign cities, especially in England and on the continent, is one-room over-crowding, the result of congestion of population in the two and three story buildings.

METHODS OF SOLUTION IN FOREIGN CITIES.

In Great Britain.

The favorite method in England of meeting this situation has been by legislation directed to the end of clearing out large slum areas, the condemnation and destruction of insanitary groups of houses and their replacement by "model tenements" erected and operated by the city. The problem of providing housing

accommodations for the population thus displaced has not been an entire success, as in almost every case fewer people were rehoused than were displaced. However, the problem there ought to be easier of solution than the same is in New York, as much higher (and at the same time sanitary) houses can be built on a space previously occupied by the lower built type. In London, corporations and private individuals have built model tenements which, while giving much improved accommodations have commanded a higher rent. These, therefore, are occupied by the better class of laboring people who are willing to pay for improved conditions.

In 1890 Great Britain secured the Housing of the Working Classes Act which superseded the previous acts bearing upon the subject and gave a uniform law for Scotland and Ireland as well as England.

Part I places upon the local authority the responsibility of preparing and executing (with the approval of Parliament) plans for the improvement of insanitary areas, and the provision of housing facilities on the area concerned for at least half the population displaced.

Part II provides that the vestries and district boards may, in proceedings before a magistrate, secure the demolition of single houses unfit for habitation. These vestries and district boards may also purchase and demolish other buildings, which by reason of their proximity to or contact with other buildings, form an obstruction to ventilation or prevent remedial measures being carried out on other buildings. To provide for the housing of the persons displaced the London County Council adopted a resolution requiring that "housing accommodations shall be provided for a number of persons equal to that of the working classes displaced by any scheme under the Housing of the Working Classes Act of 1890 or under the provisions of any improvement act, but not necessarily in the immediate neighborhood of the displacement, due consideration being given to the needs of those living in any particular area."

Part III authorizes the County Council to purchase by agreement, or, with the sanction of the Secretary of State or Parliament, by compulsion, buildings for the accommodation of the laboring class, or land for the erection of such buildings.

The provision which has been made and is still being made for housing the occupants of buildings destroyed is markedly in-

adequate. Throughout the whole of Great Britain wherever insanitary houses have been destroyed and bad areas have been cleared up it has been found that a larger number of people were displaced than were rehoused. This is so marked that the public press is strongly urging the purchases of large suburban areas for the erection of houses for the poor.

The Continent.

The laws enacted by Continental governments did not direct municipalities to purchase unhealthful areas and destroy insanitary buildings, but gave financial support to schemes for the building of model tenements. In Paris during the last thirty-five years and in Vienna during the last twenty-five years the work of demolition and reconstruction has been carried on on a large scale but it has been for the purpose of beautifying the cities and not for the better housing of the poor. The destruction of old buildings for the construction of the boulevards of Paris displaced many poor people, who, as was inevitable, sought shelter in other poor quarters, thus intensifying the crowded condition in those places. This also occurred in Vienna in the construction of the great Ringstrasse, although not to so great an extent. In this city a scheme was put in operation by which a certain percentage of taxation was permitted in case an owner erected a better or more expensive type of house. The direct result of this was the construction of houses whose rental was beyond the means of the poorer classes, so this must be considered a failure as a solution of the problem of the housing of the poor.

The Belgium law of 1889 provided for the formation of semi-official Committees of Patronage whose work was the study of sanitary conditions. The investigation by these committees shows that in Brussels, out of 19,284 families, 9,364 lived in single rooms, of which 2,186 were attics and 200 cellars. The Belgian law also provided that the National Savings Bank might invest a portion of its funds in the construction of model dwellings for the poor, first securing the approval of the local Committee of Patronage. The loans were to be made to joint societies of Credit or Construction which should purchase the site and carry on the construction of the building.

In 1894 France passed a law permitting the voluntary formation of committees on cheap dwellings in cities, and authorized

certain public savings institutions to loan part of their funds to companies for the erection of model dwellings for the poor. In 1895 another law was passed which extended this privilege to all savings banks. It is believed that very little has been accomplished by these laws as few of the buildings desired have been erected.

These facts demonstrate clearly that under government legislation or municipal ordinance, municipal action in the movement for better housing for the working classes has not been a complete success either in Great Britain or on the Continent. Two faults have been most apparent, the slowness with which the clearing of insanitary districts has been carried on and the inadequate housing provided for the people displaced. In many cases the houses erected by the municipality were of so much better class that rents were necessarily higher and so gave accommodation to a higher class of working people. This forced the poorer class which had occupied the old houses into still worse quarters, and aggravated the evil in another place.

Apparently no effort has been made in foreign cities to license tenement houses to prevent overcrowding of inhabitants, except in the Scotch city of Glasgow. Here the Glasgow Police Amendment Act provides that inspectors may enter dwelling houses or apartments consisting of not more than three rooms used as sleeping rooms, for the purpose of ascertaining the cubic feet of air space contained in the rooms and the number of persons permitted to use the same for sleeping apartments. The act requires at least 400 cubic feet of air space for every person over ten years of age and 200 cubic feet for every person under ten. Where the total cubic contents is less than 2,000 feet the inspector is required to affix to the door a metal tag stating the cubic contents and the number of persons permitted to occupy the apartment. To enforce these requirements, Glasgow has a special detachment of sanitary inspectors doing night work from about 11:30 o'clock P. M. to 4:30 A. M.

SOME BUILDING AND SANITARY REGULATIONS IN FOREIGN CITIES.

In foreign cities the building laws and sanitary regulations apply to all classes of dwellings alike. The subjects dealt with include the height of buildings, the size of open spaces, the height of basement living rooms and the sanitary provisions.

The London Acts require that no new dwelling house be erected to exceed 80 feet in height; and that no dwelling house erected on a street less than 50 feet wide should exceed in height the distance from the front wall of the building to the opposite side of the street.

There is required at the rear of each dwelling house an open space not less than 10 feet deep nor less than 150 square feet in total area, belonging to the particular house.

All basement or cellar rooms used as dwellings must be at least 7 feet high, with the ceiling at least 3 feet above the level of the ground.

The Liverpool Acts limit the height of dwelling houses facing on a street to the width of the street and houses built on courts may not exceed in height 30 feet nor contain more than two stories above the ground floor.

The Manchester By-Laws of the City Council require that on streets less than 30 feet wide houses must not be more than two stories high. On streets over 30 and less than 36 feet wide, houses may be three stories high.

Every house must have at the rear an open space 150 square feet in total area with a least dimension of 10 feet. Where the house is 35 feet high this least dimension must be 25 feet and in all cases the open space must extend across the entire width of the house.

One wall of each water-closet must be the external wall of the house and must have a window 1x2 feet opening directly to the external air.

Glasgow is regulated in its building operations by the By-laws of the Commissioners of Police and the Building Regulation Act. These require that no house facing upon a street shall exceed in height the width of the street.

Ventilation of sleeping apartments is secured by requiring that there shall be in front of at least one-third of every window of any sleeping apartment a free space equal to at least three-fourths of the height of the wall from the floor of the sleeping apartment to the roof of the building, measuring such space in a straight line perpendicular to the plane of the window.

On account of the courts and closes so common in Edinburgh and Glasgow it has been necessary to provide for thorough ven-

tilation of blocks. It is therefore required that where streets are designed in any form which contemplates the erection of buildings facing outward and enclosing a space of back ground, the owner must provide an opening 15 feet wide through such enclosure from street to street for the purpose of through ventilation. This does not apply where the enclosed space in the center of the block contains more than 16,200 square feet with a least dimension of 90 feet; and if the surrounding buildings are only three stories high and the inclosed space contains 12,600 feet with a least dimension of 65 feet, the opening for ventilation is not required.

To guard against overcrowding, an apartment of one room must contain at least 1,000 cubic feet of air; an apartment of two rooms, 1,600 cubic feet; an apartment of three rooms, 2,400 cubic feet. Each sleeping apartment must be at least 9 feet 6 inches in height from floor to ceiling if it is a ground floor room; on any other story it must be at least 9 feet.

Not more than sixteen separate apartments shall be contained in any one tenement house where there is an inside staircase, nor more than twenty-four where there is an outside staircase. There shall be not more than four apartments on any one floor.

Every water-closet shall have a window not less than 4 square feet in area communicating directly with the external air.

In Edinburgh the sanitary and building regulations are contained in the Municipal and Police Acts, the Improvement and Trust Acts, and the Scotland Public Health Act. Under these acts no house on any street or court shall exceed $1\frac{1}{4}$ times the width of the street or court, and no house shall exceed 60 feet in height without special permit.

Every house must have at the rear a yard space equal to $\frac{3}{4}$ the area of the house where such house is not more than 4 stories high. Where any house is more than 4 stories high such yard area must equal that occupied by the house. Special permission to modify this may be granted by the Dean of Guild Court.

Where houses are built around a block and inclose in the center of the block a space less than 18,000 square feet whose least dimension is 120 feet, there must be an opening 15 feet wide and 15 feet high through the buildings at opposite points in the block, in order to furnish through ventilation.

In every dwelling house of more than two apartments there must be provided a water-closet, one side of which is the external wall of the house and contains a window opening of not less than 4 square feet, direct to the external air.

The Paris building regulations, up to 1903, provided that houses should be built in proportion to the width of the street according to the following requirements:

<i>Width of Street.</i>	<i>Height of Houses.</i>
7.80 metres (25 ft. 7 in.)	12 metres (39 ft. 4 in.)
7.80—9.74 metres (31 ft. 11 in.)	15 metres (49 ft. 2 in.)
9.74—20 metres (65 ft. 7 in.)	18 metres (59 ft.)
Over 20 metres	20 metres (65 ft. 7 in.)

In no building shall the height of the ground floor be less than 2.80 metres (9 ft. 2 in.) nor shall rooms on any other floor be less than 2.60 metres (8 ft. 6 in.) in height.

In buildings under 18 metres in height the courts upon which sleeping apartments open must have a total area of not less than 30 square metres (323 sq. ft.) with a least dimension of not less than 5 metres (16 ft. 5 in.). In buildings over 18 metres (59 ft.) in height, where wings of the building are of the same height the court must have at least 40 square metres, (430 sq. ft.) total area, with a least dimension of 5 metres (16 ft. 5 in.) Where the wings of the building are over 18 metres the court must contain at least 60 square metres (646 sq. ft.) with a least dimension of 6 metres (19 ft. 8 in.).

A revision of the building code of Paris has been in progress. The principal change proposed is to increase the height of buildings and at the same time increase proportionately the area of adjacent open spaces.

Berlin has a revised Act of Building Regulations which requires that houses fronting on the street shall not exceed in height the width of the street, and that rear houses must not be more than 16 metres (19 ft. 8 in.) higher than the width of the open space directly in front of them.

All buildings separated from one another by a space and not merely a party wall must be separated throughout by a space whose least width is $2\frac{1}{2}$ metres (8 ft. $1\frac{1}{2}$ in.) provided there



Illustration I.—Tenements crowded on a lot. Not one square foot of free yard space remains.



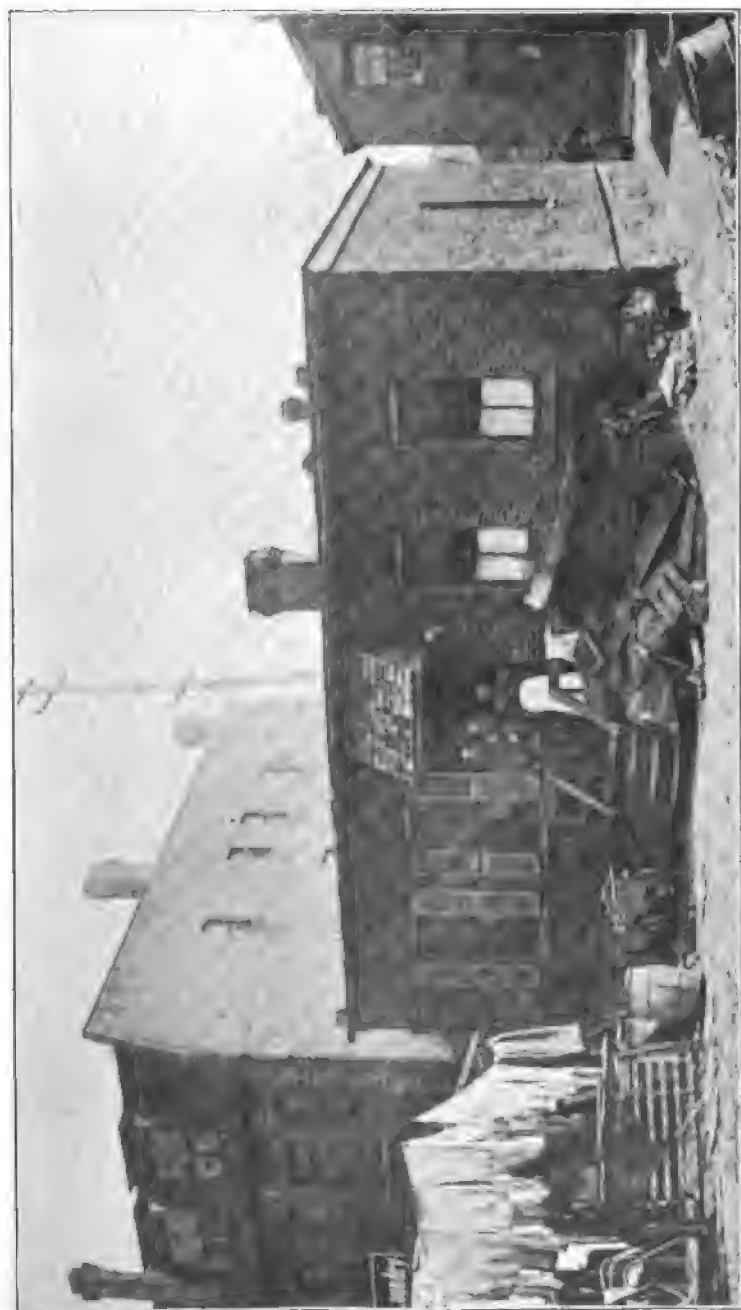


Illustration II.—Insanitary back yards. This rear dwelling is occupied by two families, and in 1905 proved a veritable "scarlet fever nest."

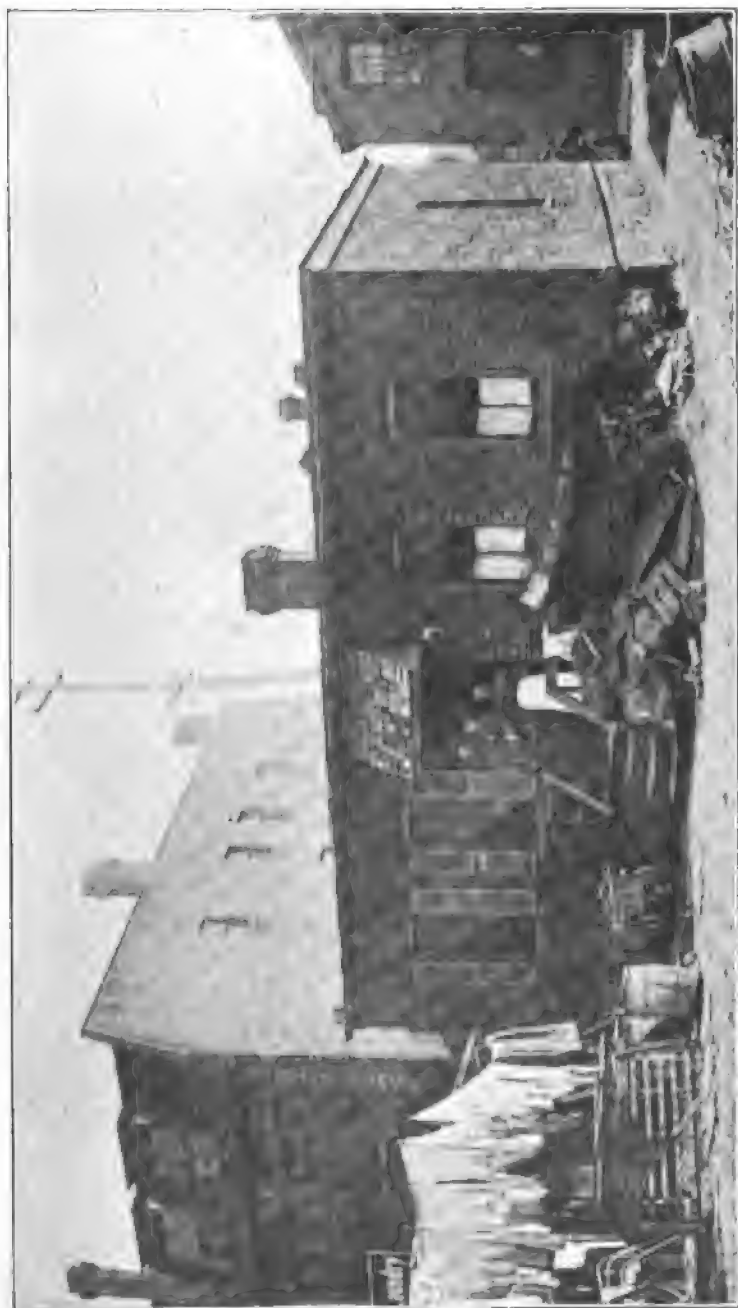


Illustration II.—Insanitary back yards. This rear dwelling is occupied by two families, and in 1905 proved a veritable "scarlet-fever nest."





Illustration III.—Tenement group in Jewish district. The buildings on the right have basement living rooms which are hidden by the fence.





Illustration IV.—Typical rear dwelling sought out by groups of foreigners. Building in center already condemned by City Building Inspection Department. Building still occupied, one room by nine Hungarians, two by eleven Slovaks, and two by nine Hungarians. In some cases the occupants have less than 150 cubic feet of air space each. The rooms are most insanitary and the cellar filled with refuse.



are no openings in the wall which face each other, and at least 6 metres (19 ft. 8 in.) where such openings do exist.

The proportion of lot which may be built upon is also definitely limited.

METHODS OF SOLUTION IN AMERICA.

In America the enlargement of municipal functions to the end of destroying slum areas and erecting thereon municipal model tenements has not seemed desirable to those seeking tenement reform and social betterment. The only movement in this direction has been in New York City, where several notorious slum areas have been destroyed and replaced by public parks and play-grounds, thereby producing a sudden and marked improvement in the character of the district.

The experience of New York, the early neglect, later mistakes and inadequate reforms, and present tremendous tenement problem which the new law and the Tenement House Department must cope with should prove a lesson to other cities whose tenement problem has just begun.

History of New York's Tenement Legislation.

The movement toward housing reform in New York began as far back as 1834 when the population was 270,000. The city inspector in his annual report on vital statistics called attention to the increase of deaths over the increase of population and ascribed it to intemperance and the crowded and filthy state in which a large part of the population lived.

In 1842 Dr. John Griscom, City Inspector of the Board of Health, submitted, in addition to his annual report, a pamphlet entitled, "A Brief View of the Sanitary Condition of the City." He called attention to the crowded condition and poor ventilation in a great number of dwellings, the physical influence of the impurity of the atmosphere, and the depraved effect which such modes of life exert upon the moral feelings and habits.

In 1843 the Association for Improving the Condition of the Poor was organized and between 1846 and 1853 the work of investigation was carried on by the Association, and it was decided to form a company for the building of model tene-

ments. This plan was not carried out although architectural plans of model tenements were prepared.

In October, 1853, a special committee of the Association published a pamphlet of thirty-two pages, which constitutes the first tenement house report published in America.

In 1856 a committee was appointed from the Legislature to examine tenement conditions in New York and report the same to the Legislature. This committee made a report on the work done in the short time allowed, and then of their own will and at their own expense they continued the work and rendered their report to the next Legislature, in 1857. This constituted the first legislative inquiry on the subject, and urged the formation of a separate Tenement House Department.

Ten years later the first tenement house law was passed and the enforcement was vested in the Board of Health. This law provided for many important things but failed to limit the amount of lot space which could be built upon.

In 1879 changes were made in the tenement law, limiting the amount of space that any new tenement house might occupy to 65 per cent of the lot. Unfortunately, however, a clause was inserted allowing the Board of Health in special cases to modify this provision. As is often the case where discretionary power is given, the exception became the rule and the Board of Health was found to be allowing 85 and 90 per cent. of the lot to be built upon.

In 1879 a newspaper in New York known as the "Sanitary Engineer" offered prizes for the best architectural design for a tenement house on the ordinary city lot 25 feet wide by 100 feet deep. Architects numbering 190, from all parts of America, and from Canada and Great Britain sent in plans. The first prize was awarded to Mr. James E. Ware, and from that date the notorious "double-decker dumb-bell" tenement became the rule in New York's tenement house system. It is strange that what was at that time considered by the judges a model tenement should at the present time be considered one of the very worst types in existence. However, the approval at that time was not universal and many of the leading papers severely censured the choice.

In 1884 a second Legislative Commission was appointed to investigate the tenement house question and after seven

months' work this Commission reported on conditions and made twenty distinct recommendations. These recommendations did not result in legislation until three years later. Then the Legislature of 1887 amended the tenement house law, increased the number of sanitary police, and provided for a permanent Tenement House Commission to meet once a year. The law also provided that all owners of tenement houses should file their names and addresses annually with the Board of Health and that the Board of Health should make a semi-annual inspection of every tenement house. Among other provisions was one which extended to all old buildings, altered to be used as tenements, the requirement for new tenements regarding the percentage of lot to be occupied; and another which required one water-closet for every fifteen occupants.

A third Legislative Commission published in 1895 a voluminous report including twenty-one recommendations. These touched upon the questions of rear tenements, over-crowding, fire-proof construction, plumbing, sanitation, basement dwellings, paving of streets in tenement districts, public parks, recreation piers, public baths, etc. The Legislature of 1895 passed a new law including many of these recommendations.

In 1900, after considerable agitation by the Charity Organization Society, another Tenement House Commission was appointed by the Legislature and in 1901 the Tenement House Act became a law and is now enforced by the newly created Tenement House Department of New York.

HOUSING CONDITIONS IN VARIOUS LARGE AMERICAN CITIES.

Chicago.

The City of Chicago has a serious housing problem, although not as yet the tenement house problem confronting New York, where entire blocks are built in solidly with large high tenements presenting the evil results of the air shaft. In Chicago large multiple dwellings, flats and apartment houses, intended for the better class of occupants, have sprung up in large numbers over the entire city, but the majority of the working people live in one or two story houses, which are often occupied, it is true, by from two to a half

dozen families. While some large buildings, housing great numbers of people, exist in the slum districts, the chief problem consists of these smaller houses, constructed of wood, in all stages of dilapidation, without proper drainage or repair. These houses are crowded thickly in a block, often three on a lot, so that the rear tenement prevails to a great extent, as does also the basement dwelling. Many old private dwellings are converted into poorly appointed multiple dwellings.

Until 1899 no attempt was made in Chicago to remedy the bad housing conditions or prevent the development of new evils. Now, however, the Building Ordinances of the City of Chicago contain 100 sections relating exclusively to tenement houses which include all buildings used as a home or residence for two or more families living in separate apartments.

The ordinances of the Health Department also contain a number of provisions relating to this class of buildings.

Philadelphia.

Philadelphia, notwithstanding its large population, is not yet confronted with a tenement house problem, since the majority of its working people live in small houses. In many cases these are occupied by three or four families, but it is not the rule. The slum problem, however, is a serious one, and consists of dilapidation, poor drainage, and overcrowding in the old quarters of the city. Old frame and brick buildings, once the residences of more prosperous families, have in their period of decay become the dwellings of the poor.

Philadelphia, however, has some excellent laws and ordinances relating to the subject. These refer to height and size of rooms, ventilation of rooms and halls, percentage of lot occupied, stairways, water supply and other requirements. One important requirement is that no light shaft or open space shall be less than 8 feet wide, and when between houses, shall be not less than 12 feet wide; and that every shaft or court furnishing light and air to tenement house living or sleeping rooms shall open upon one side into the street, or into the yard or open space.

Boston.

Boston, next to New York, has the worst tenement conditions in the United States. The chief evil in this city, is a considerable number of tall tenements fronting on narrow alleys, in which a large number of poor foreigners reside. These buildings are usually four or five stories high and shelter a large number of people although seldom as many as a New York tenement. Besides this tenement problem, Boston has a housing problem similar to that in many other cities where age, dirt, dilapidation and defective drainage are the chief evils. For many years, however, Boston has made an effort to solve its tenement problem and has passed several good laws relating to the subject. These regulate the height and kind of building to be used as tenement houses, stairways, fire-escapes, percentage of lot to be occupied, ventilation of rooms, basement living-rooms and condemnation of old buildings unfit for habitation.

Baltimore and Washington.

The two cities of Baltimore and Washington have peculiar housing problems which result in large measure from the complicated alley system found in both cities. Instead of alleys going straight through blocks, and being open to inspection from the street, as found in the city of Milwaukee, the alleys of Baltimore and Washington branch and turn many times after entering the block. On these alleys, shut off from public notice, the most insanitary conditions prevail, and vice and crime flourish. The houses are for the most part small shacks, mere hovels so old and dilapidated as to be unfit for human habitation. These houses, being small, have involuntary light and ventilation, but many are without water supply or sewer connection and the surroundings are destructive to health and morality.

There are in both cities building laws and health ordinances relating to tenement houses but these are manifestly inadequate to deal with conditions already existing. One notable piece of legislation, however, was the law passed in 1892 which provided that there should be no further building of habitations on alleys of Washington less than 30 feet wide or which were not supplied with sewerage, water mains and light.

HOUSING CONDITIONS IN MILWAUKEE.

In any housing investigation the tenement house is usually the moving cause and becomes the element around which remedial measures center. The Century Dictionary defines a tenement house as follows: "A house or block of buildings divided into dwellings occupied by separate families. In ordinary use the word is restricted to such dwellings for the poorer class in crowded parts of cities." The National Cyclopedia gives the following detailed but limiting definition: "The poorest class of apartment houses. They are generally poorly built, without sufficient accommodation for light and ventilation, and are over-crowded. The middle rooms often receive no daylight, and it is not uncommon in them for several families to be crowded into one of their dark and unwholesome rooms. Bad air, want of sunlight, and filthy surroundings work the physical ruin of the wretched tenants, while their mental and moral condition is equally lowered." No more accurate definition of the worst type of tenement house could be written, but it is only one of the various types of tenement houses all of which should be controlled by law.

Robert W. De Forest in his work on the Tenement House Problem of New York says, "No possible distinction in law can be made between the so-called tenement, flat, and apartment houses. As respects tenement regulations they are absolutely and irrevocably one and the same thing. They are all multiple houses. That is, they all have many parts used in common by the different families that use the houses and require some quasi-public care and supervision. There may easily be difference in the degree of such supervision required. That is, the extent of public inspection needed in the highest grade of apartment houses is unquestionably, by reason of the habits of its occupants, less than the inspection required for the lowest grade of so-called tenement houses, but the kind of regulation, the minimum size of courts, the minimum lighting of rooms and halls is the same. Nor is there any certainty that the lesser degree of inspection, sufficient today by reason of the superior character of occupancy will suffice for the changed occupancy tomorrow."

Sanitary and fashionable apartment houses are now building in large numbers on the desirable residence streets of Milwaukee. The statistical table on flats and apartment houses shows that the number and size of buildings of this class have increased from year to year. Although intended for the occupancy of the better class of tenants and built to meet the requirements of that class, these buildings present some features which should have been forbidden, the chief one being insufficient light in sleeping rooms and hall-ways. In their economy of land space it is reasonable to suppose that they will in time find a counterpart in the poorer quarters, or may themselves become the habitations of the poorer class as the fashionable quarter shifts. The latter assertion is warranted by the fact that in certain portions of the city what were once fashionable individual residences have since been converted by inadequate alteration into tenement houses. Certainly some preventive measures should be established before such buildings become too numerous and their evils unconquerable.

The detailed housing investigation in Milwaukee covered certain districts which were supposed, or known to contain insanitary or crowded conditions. The districts so chosen were as follows: (1) A portion of the 6th, 9th and 2nd wards, bounded by Third and Ninth and Chestnut and Cherry Streets, and inhabited chiefly by Russian, German and Hungarian Jews; (2) a portion of the 2nd and 4th wards extending from Chestnut Street to the first alley north of Grand Avenue, and from Second and Third Streets to about Ninth Street, including within its boundaries the Negro quarter between Wells and State Streets, and Second and Sixth Streets. (3) the 3rd ward below Michigan Street, inhabited chiefly by Italians and Irish; (4) Jones Island, inhabited chiefly by Germans and Poles; (5) the district along South Water Street, Clinton and Reed Streets in the 5th Ward and along Kinnikinnic Avenue in the 12th ward where are located the 'Long-shoremen's Homes, Mechanic's Homes and cheap lodging houses; (6) the section of the 17th ward in the vicinity of the rolling mills where are situated a number of Hungarian and Italian lodging and boarding houses; (7) a typical section of the 14th ward which is settled by Poles, has the largest popu-

lation and the highest death rate per thousand of all wards in the city; (8) the scattered colonies of Austrians, Hungarians, Greeks, Slovaks and Macedonians located on Florida Street, Grove Street, St. Paul Ave., Cedar Street, Chestnut Street, State Street, Twelfth Street and other places.

Since no definite tenement district exists in the city it was found that only certain houses or groups of houses in the various sections could reasonably be included in the report.

The New York Tenement House Act defines a tenement house as any house or building or part thereof which is rented, leased, let or hired out to be occupied as the home or residence of three or more families living independently and doing their cooking upon the premises, or by more than two families on any one floor so living and cooking but having a common right in the halls, stairways, yards and closets. This definition furnished a working basis for the detailed inspection of tenement houses in Milwaukee.

It was soon apparent, however, that quite as serious as the tenement problem was the problem of the cheap lodging or boarding house. These establishments were found to be so numerous, so over-crowded, so poorly housed, and so insanitary as to warrant description in this report, with the prospect of their more stringent regulation and inspection. The total number of such lodging houses in the city is not shown in this report. To do so would have required more time than was allowed during this investigation. The reason is plain. To locate and inspect the lodging houses on or near South Water, Clinton and Reed Streets, Kinnikinnic Avenue, or Wells and Second Streets is a simple matter as those lodging houses have been there for years and are permanent. The majority of them bear signs denoting that they are lodging houses. But to locate all the foreign lodging and boarding houses scattered through the various sections of the city is quite a different matter. Inspection of a limited number proved that until more stringent lodging house regulations exist the work of locating and inspecting the total number would be unwarranted. No new phases were presented by enlarging the inspection. The story of over-crowding and insanitary conditions was always the same. The only additional information gained was proof that the number was

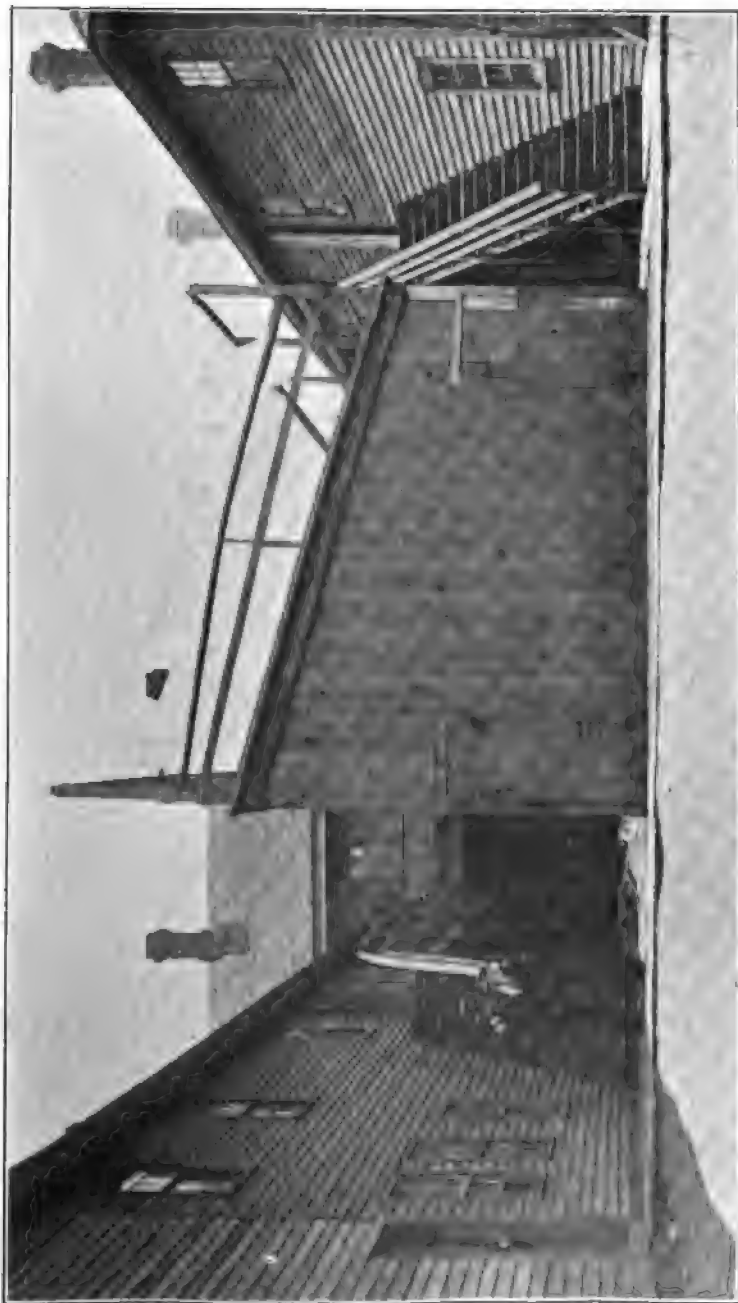


Illustration V.—Group of two story tenements containing 84 persons, chiefly foreign immigrants. This group presents the example of defective drainage shown in Illustration VI.



Illustration VI.— Catch basin for the three buildings shown in Illustration V. The drain is clogged, the sewage flows over the top, down the alley, across the cement sidewalk and onto the street.

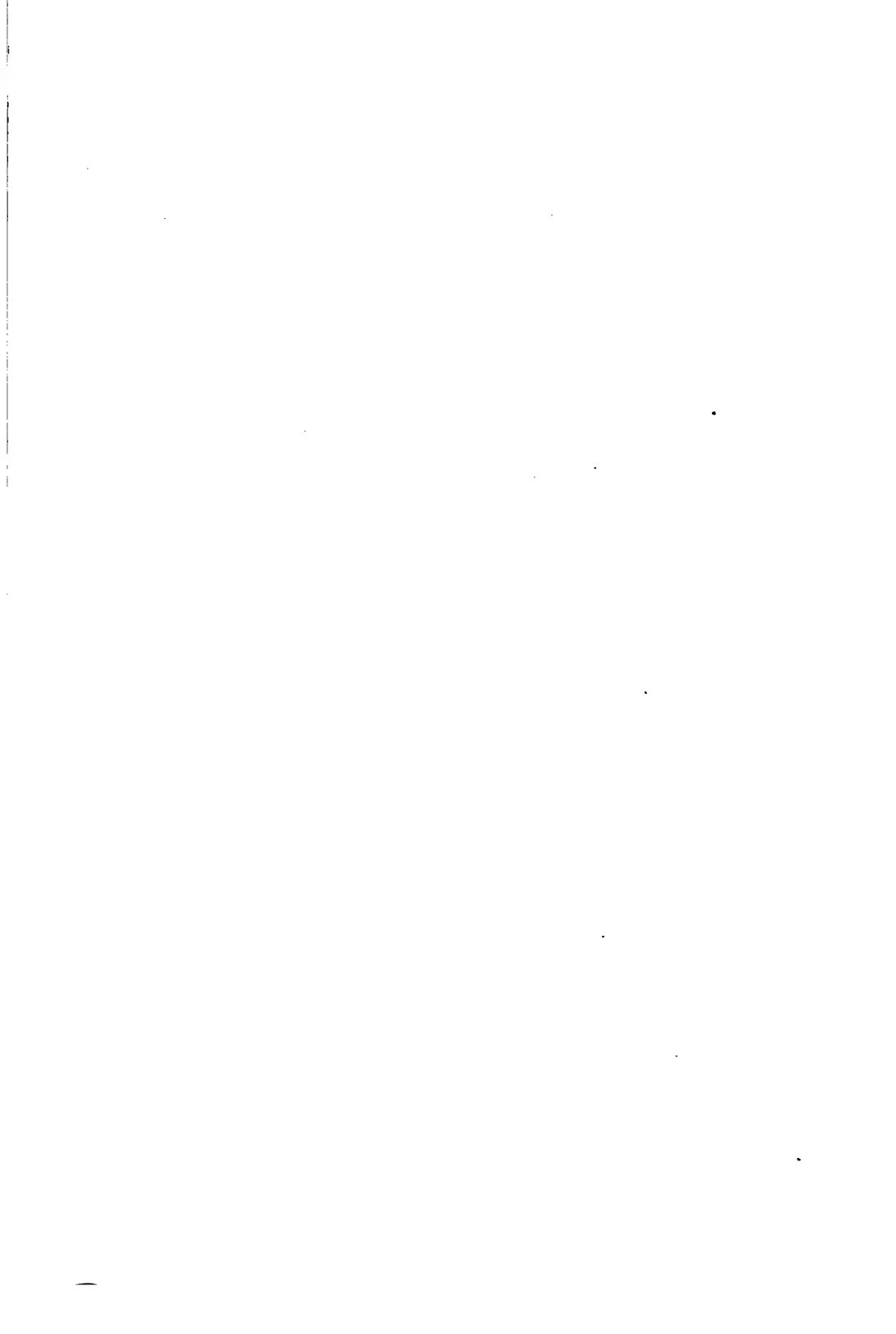




Illustration VII.—Typical group of three rooms occupied by Slovaks. The open doors lead to sleeping rooms, one occupied by four, the other by five men.





Illustration VIII.—One of the sleeping-rooms shown in Illustration VII. This room is 15 feet 2 inches long by 8 feet 6 inches wide and 8 feet high, and contains four beds, allowing 267 $\frac{1}{2}$ cubic feet of air space for each occupant.



large and apparently increasing as many of them had been only recently established. Few bore a lodging house sign for all seemed to depend on their patrons for advertisement. This plan evidently worked well and seemed to extend even to Europe as many of the lodging houses contained newly arrived immigrants.

Unless these lodging houses were conducted by a man and his family, and a saloon and lunch counter were established in the front room on the first floor, the whole establishment was less liable to be permanent. In several instances mere lodgings, known to have existed in certain places, were found, upon inspection, to have moved, leaving the building vacant. Tracing them was quite impossible as inhabitants of the neighborhood seldom held communication with the strangers and were rather relieved when they were gone.

DETAILED DESCRIPTION OF VARIOUS ELEMENTS OF THE HOUSING PROBLEM IN MILWAUKEE.

Back-to-back tenements.

This element in the housing problem is illustrated by four tenement houses, two front and two rear, placed back-to-back on a lot 40 feet front by 120 feet in depth, at Nos.— to — Milwaukee Street. The front wall of the two front houses is on the front lot line. An open space 3 ft. 4 in. wide runs from front to rear between the houses. The two front houses are separated from those in the rear by a space 4 ft. 11 in. in width. The front wall of each rear house is at all points 33 ft. from the rear lot line. On this space at the rear of the lot stands a chicken coop, a lean-to shed and a barn stabling two horses. Thus it is evident that little unoccupied space remains on the lot. The houses are separated from the two story building on the adjoining lot on one side by a space about six inches wide. So narrow a space renders the windows on that side useless for lighting and dangerous for ventilation as the space is so narrow that it can not be cleaned and becomes the receptacle for all manner of garbage and refuse. On the opposite side of the lot the side wall of the house is upon the side lot line. At present the adjoining lot is vacant which leaves the windows on that side of two houses available for light and

air, but as soon as the adjoining lot is built upon such windows will be practically useless.

All four houses are of brick, two stories in height with basements 8 ft. high. The ceilings of the basements are three feet above curb level and the entire basements are above lot level. Although every room in the four houses has a window to the exterior air, the rear rooms of the basement and the first floor are so dark on account of the narrow space between buildings that it is necessary to keep a lamp burning there at all times of the day.

A description of one apartment will serve to show the plan of each, although rooms in other apartments are put to various uses, such as the ripening of fruit, the sale of steamship tickets and as lodgings for men. The apartment chosen for description is used entirely as a dwelling, and is occupied by a man, his wife, two small children and two boarders. The front room is light, having two windows opening to the street. The furnishing consists of a stove, a bureau, a table, three chairs and a double bed. The room directly back of this is in semi-darkness, having one window opening upon the six inch space between this building and the one on the adjoining lot, and another window on the opposite side of the room opening upon the narrow passage between the two front houses. This room contains a bed, a cot, a table, and several clothes lines stretched near the ceiling upon which hangs clothing of all sorts. It is necessary to stoop under this suspended clothing to reach the rear room which is almost totally dark. Two windows open from this room to the narrow space between the front and rear houses. In this room the cooking and eating is done, and also the washing and drying of clothes. In one corner of the room the water-closet is built in, entirely without light or ventilation. The plumbing is defective, allowing water to run onto the floor of the compartment, and the wood-work is wet and decayed.

Dark rooms in the Italian quarter.

The worst example of dark rooms is found in a tenement house at No. — Milwaukee street. The building is of brick, two stories high, with a basement 8 ft. in height, the ceiling of which is 4 ft. above the level of the grade. Each floor contains three

apartments of from three to seven rooms each. Every apartment has one dark sleeping room, and owing to a peculiar arrangement of wood and coal bins, the basement apartments have two such rooms. An attempt is made to light some of these rooms by a window opening into an insufficiently lighted living room, but the result is unsatisfactory. In other cases the rooms are left in total darkness.

These sleeping rooms are small and are almost entirely filled by one or two beds, a trunk or chest, and rows of clothing hanging on the walls. In such crowded quarters cleaning is difficult. The dirt goes unnoticed in the darkness and the bedding is seldom if ever taken out of doors to be subjected to the purifying effect of light and air. Each apartment has a water-closet built against a partition wall, with no provision for light or ventilation. At the time of inspection the entire building was in an insanitary condition owing to improper construction and lack of repair. A few of the tenants were neat and made some pretense of keeping their apartments clean. Others were careless and filthy in the extreme. But all united in the complaint that the landlord did nothing but collect the rent, and the appearance of the building indicated that the statement was true. The walls and ceilings showed that they had not been painted or whitewashed for years. Old layers of whitewash or kalsomine had fallen off in patches and in many places the plaster was broken. The window frames had warped and the putty had fallen off, leaving openings around the panes. The roof of the building leaked so that moisture came through the plaster on the second story.

The landlord, with his family, occupies an apartment in the building so that it would be quite possible for him to exercise supervision and know what repairs are necessary if he were so inclined.

At the time of the inspection some of the basement tenants kept lodgers and when questioned reported from five to eight lodgers, as the case might be. It is probable that there were more, as these people are loth to give the exact number for fear their rent will be raised. The tenants on other floors said there were sometimes twenty or thirty men lodging in the basement at night, but whether they stayed any length of time or left shortly, new ones taking their places, it was quite im-

possible to tell since they looked so much alike. If a larger number slept in the basement than was definitely reported they must have slept on the floor as no extra beds or cots were found stored away to indicate that they might be set up at night.

A group of tenements in the Jewish quarter.

The chief tenement evils in the section known distinctively as the Jewish Quarter are a number of old and dilapidated buildings, a considerable amount of basement dwelling, insufficient and insanitary closet provisions, unclean houses and yards due to careless habits of tenants, and the confining of chickens in basements by "Kosher" butchers. A degree of over-crowding is also found in this quarter although the evil of one-room over-crowding is not so serious as in other sections of the city.

At Nos. — to — Fifth Street stands a group of dilapidated tenement houses which are an example of the neglected old buildings in the city still inhabited by the poorer class of people, in this case by newly arrived Russian and Hungarian Jews. These buildings are of wood, two stories high and contain basement living rooms. The exterior is weather stained and decayed. The walls are out of plumb, the roofs are sagged. Inside, the plaster is cracked and grimy, the floors are black and worn, the doors hang unevenly. And these houses rarely lack tenants although the stay of most is short. One house contains three apartments including in all ten rooms. At the time of inspection this house was inhabited by twenty people, five of whom were children under fourteen years of age. The second house contains four apartments and twelve rooms. One apartment of three rooms was vacant and in the remaining nine rooms lived seventeen people, seven of whom were under fourteen years of age. The third house has six apartments and twenty-one rooms. Two apartments were vacant and in the remaining fifteen rooms lived nineteen people, seven of whom were under fourteen years of age. For these three houses, sheltering, at the time of the inspection, fifty-six people, only two closets are provided. These are exterior water-closets, and although new are already unfit for use.

In an apartment in one of the tenement houses lives a cob-

bler with his family. The rear rooms are used as living rooms. The front room is used as the cobbler's work-shop where he sits at his bench near the window. Back of him against one corner of the room, and reaching half way to the ceiling, lies a pile of old shoes, twisted and brown, or green and mildewed, gathered from alleys, refuse heaps and rag peddlers' stores.

These shoes are eventually soaked, scraped, repaired, blackened and sold all in the room opening into the living rooms of this family. The offensive odor permeating the whole apartment testifies to the insanitary condition prevailing there.

Winding stairs.

The worst example of winding stairs in tenement houses is found at No. — Cherry Street. This flight of stairs is 3 feet wide, with risers 7 inches high and treads 17 inches wide at the outer edge and three inches wide at the post. The whole stairway is dark, steep, narrow and dangerous. Even in the day time when the condition is naturally best, ascent or descent is difficult in the half light which pervades the place. A lamp is supposed to be kept burning on the landing at night but often this light is not provided. In case of fire if the tenants undertook to use this stairway in the night serious accident would certainly result. Winding stairs should never be allowed in any tenement or lodging house, even though other means of egress exist, for while such stairs remain they will certainly be used, and furnish a very possible danger.

Curious sleeping quarters.

In an old tenement house located at No. — Grove Street some curious sleeping quarters were found which were the result of the lodger evil. The building is a two story wooden tenement containing four separate apartments which include fourteen rooms. At the time of inspection two apartments were vacant and the other two contained twenty people in all. One of these apartments consisting of three rooms, was decidedly the worse, for here were housed fourteen people, a man with his wife and child, and eleven boarders. One small room was used as a kitchen and was only large enough to hold a cook-stove, a table and two chairs. So large a num

ber of people had to have a separate place to eat so a second room was used as a dining room and contained a table and several chairs. Consequently the third room was all that was left for a sleeping room and into it were crowded four double beds.

Further investigation of the apartment disclosed a narrow pantry from which the shelves had been removed and into which an old mattress was crowded, completely filling the space from side to side and end to end. Even with this strange addition to the provisions for lodging, there were sleeping accommodations for only nine persons. But an interview with the "boss" brought forth the not unusual information that some of the men were factory hands who worked on night shifts and occupied during the day beds which the others occupied at night.

The entire number were Hungarians who had been in this country but a short time. None spoke English and only the man in charge spoke or understood German.

Hungarian lodging houses.

Some strange conditions were found in the Hungarian settlements of the city. The only aim seemed to be to find shelter regardless of the kind. All sorts of old buildings were utilized as dwellings and then were crowded to their utmost capacity.

In one old house, formerly a meat-market, located at No. —, Bishop street, twelve Hungarians live in four small rooms. Two rooms only are used as sleeping rooms. The third is used as a kitchen and the fourth, formerly the refrigerator, is now used as a kind of stock-room where the surplus clothing of the family and boarders is deposited.

In another old house, formerly the village bakery, located at No. —, Bishop street, seventeen people live in eight rooms. The brick oven still stands in the rear of the house, but the remainder of the building has been turned into lodgings. Conditions, although crowded, are not so insanitary as in the former establishment because two women do the work and manage to keep the rooms fairly clean.

A third building, formerly the village engine-house, located at No. —, South Bay street, shelters seventeen people in four

rooms. Here, as is usually the case, one room is set aside as kitchen where the cooking, eating and washing is done. This leaves three rooms to be used as sleeping rooms by seventeen people. One of the inhabitants is the wife of the proprietor and another is his daughter, a girl of fifteen years.

An inspection of the building was made at about two o'clock in the afternoon and at that time several of the lodgers who worked on night shifts in the mills were sleeping in the beds. It is quite probable that the same beds are occupied at night by another set of men who work during the day; although the proprietor would not admit this to be the case. However, even under the circumstances disclosed by a day visit it is difficult to see how health and decency can be preserved under such crowded conditions.

It is not necessary in Milwaukee for people to live in this manner and it should be prohibited by law. The reason for their living so is to save money. The majority of the men are in this country only temporarily. Some are unmarried and others are married men who have left their wives and families in the old country and have come here alone to remain only three or four years and then return home with their savings. They are industrious and honest and are considered good customers by tradespeople. Their diet consists of bread, meat, vegetables and coffee. During the investigation the inspector was followed from house to house by the grocer's boy taking orders for the day's provisions. "You are doing a brisk business," the inspector remarked. "I should say I am," the boy replied, "I collect a hundred and fifty dollars around this neighborhood every two weeks."

Cheap lodging houses.

One of the most serious phases of the housing problem in Milwaukee is that presented by the cheap lodging houses. The principal evils are insanitary old buildings, defective plumbing, lack of light and air, over-crowding, and the filthy condition of the rooms and beds. Particular mention has already been made of the scattered lodging and boarding houses frequented by foreigners, but special attention should also be directed to the condition and care of the permanent establishments furnishing cheap accommodations to transient lodgers. These advertise lodgings at 10, 15, 25 and 35 cents a night.

The 10 cent lodging consists of a bed whose only furnishing is a mattress, a quilt and a pillow, which in every case is filthy in the extreme. The 15 cent lodging consists usually of the same sort of bed with the addition of sheets and a pillow case, which are changed at varying intervals but never oftener than once a week. A 25 cent lodging is usually one in which fresh sheets and pillow case are furnished each new occupant; and a 35 cent lodging has the additional advantage of better light and ventilation and only one bed in a room.

The rooms themselves vary a great deal in size and the amount of ventilation and light. Many totally dark rooms were found, while others were in semi-darkness. These were rooms with regularly constructed partition walls. But in several of the Longshoremens' Lodgings on Clinton, Reed and South Water streets the rooms consist of small cell-like compartments surrounded by a light board partition six and a half or seven feet high. In some cases heavy wire netting is stretched over the top of these rows of compartments and securely fastened to each partition. This device is to prevent thieving. Where these low partitions are used, each story consists of a single large room with windows at front and rear and contains four rows of cells, two through the center of the room and one along each side. Consequently the only light received by the small compartments is the diffused light of the room which enters them at the top. Each compartment is large enough to hold merely a cot or a single bed and a chair between it and the opposite wall.

The majority of the lodging house buildings are old and insanitary and the plumbing is defective. The floors in many buildings look as though they were never scrubbed. The janitor service is insufficient. The majority have no night watchman. In only one case is there an attempt to maintain model lodging house conditions and this is in an establishment built and conducted on the Chicago lodging house plan. This building is modern and sanitary in its construction and appointments. Each floor has a regular janitor, and a watchman is employed at night. The management here makes considerable effort to prevent the spread of vermin or infectious or contagious disease, but such precautions are rare in the other establishments. The County Hospital reported several cases of infection coming to it from a single lodging house, and an inspection of such establishments causes surprise that contagion or infection is ever avoided.



Illustration IX.—Tenement house occupied by Italians and Irish. The entry against which the man leans hides the steps leading down to five basement rooms occupied by a man, his wife and four children. All of the rooms are very dark.





Illustration X.—Interior flashlight view of basement shown in Illustration IX. The wide angle lens necessary in taking views of small rooms gives these an appearance of considerable size, but all are small, low, damp and dark.





Illustration XI.—Basement dwellings in Italian district. All of the apartments in this building have dark rooms.



Illustration XII.—One of the dark rooms in the basement shown in Illustration XI. This room is one of many in the city entirely without light or ventilation.



The city of Chicago has several lodging houses built especially to conform with those sections of the Illinois State Board of Health Act which relate to lodging houses, boarding houses, taverns and hotels in cities of the first class. (See Appendix.) The Municipal Lodging House, the Chicago Mills, built upon the plan of the New York Mills Lodging House, and the Acme No. I and Acme No. II are among the number. These are constructed with the four rows of cell-like compartments running the entire length of the room on each floor. These compartments are covered over the top with wire netting and, including the free space above each, allow every occupant 400 cubic feet of air space. The special sanitary regulations are of interest. Every bed is furnished with sheets and pillow cases which are changed at least twice a week. The floors of rooms, halls and stairs are thoroughly scrubbed twice a week. The entire establishments are fumigated every three months or oftener as occasion demands. In one case the fumigation continued for eight hours, 72 pounds of sulphur being burned on each floor. The Municipal Lodging House requires baths and the disinfecting of clothing as well as a careful record concerning each lodger. The Acme Lodging Houses use moss mattresses which are the most easily kept sanitary. The price of lodgings ranges from 15 to 35 cents.

A dilapidated barrack.

A three story frame building situated at No. — St. Clair street presented at the time of inspection an example of dilapidation and decay which in kind and extent exceeded any other in the city. The best authority available pronounced the building over forty years old. In the early days it had been used as a hotel but had at last degenerated into a neglected barrack, condemned by the City Building Inspection Department, but still allowed to stand and furnish a dwelling place for a shifting population who expected nothing from it save the shelter of its roof and walls.

Although many separate families and groups of men inhabited the building it was not divided into regular apartments and suites of rooms with kitchen facilities in each group as is the case in the other buildings mentioned. There were in this building twenty-seven rooms and a hall and open stairway through the center of the house from the first to the third story. To the right of the hall on the first floor were located one large room

and two small ones, apparently the dining room, pantry and kitchen of the hotel. Eight Hungarians had been living in the large room but had gone just previous to the inspection, leaving behind them a lidless stove, a bent iron bedstead and some rusty dinner pails. The walls were smoked and black, the floor was broken, allowing a view into a dark, damp hole below, and window panes were gone, which, however, caused involuntary ventilation of the place. To the left of the hall were two rooms inhabited by five Italians. One room was used exclusively as kitchen and dining room and the other contained three double beds and several wooden steamer chests.

The second story contained eleven rooms, which were occupied by nineteen people, all Italians. Only three rooms were used for sleeping purposes. Of the remaining rooms two were used as kitchens, two as coal bins, one as wood room, one as wash room and two as dining rooms. The inhabitants seemed to be divided into two groups, one composed of eight men, the other of a man, his wife, three children and six boarders.

The third story also contained eleven rooms which were occupied by twelve people, four Hungarians living by themselves, and eight Italians, a man, his wife, one child and five boarders. The twelve people used three rooms as sleeping rooms, two for storing fuel, two as kitchens, one as dining room (and card room), one as pantry and one for the making and drying of spaghetti. One small room was vacant and was used as the passage way to a window from which the garbage and waste water was poured onto the roof of a one story addition at the rear. The whole building was shockingly insanitary and structurally unsafe. The walls were bulged and the roof was sagged; the floors were black, broken and uneven with accumulated dirt; the plaster had fallen off in patches and gave forth the musty odor common in old buildings. No plumbing or sewer connection existed, and all water used in the building was secured from a well in the yard. The inhabitants seemed to be united in the opinion that carrying water to the second and third stories was quite enough trouble without carrying it down again, so all waste was disposed of through the windows. In one case to avoid the trouble of raising the window a pane was broken out and a trough put through, into which the garbage and sewage was poured and scattered over the yard below.

Defective drainage.

The most serious example of defective drainage is found in a group of tenements at No. — Twelfth street. This group of four buildings is located on a lot 100 feet front by 150 feet in depth, one house being at the front and the other three at the rear, forming three sides of a hollow square. The house on the front of the lot is a two story frame structure with a cellar entirely below lot level. The building, though old, is sanitary. It contains twelve rooms and is inhabited by 14 persons, the landlord, his son's family of 10 persons, and 3 lodgers.

The three houses on the rear of the lot are two story, frame structures. Every room in the three buildings has a window to the external air and receives plenty of light and fresh air. The principal evils are one-room over-crowding, insanitary conditions in the houses, inadequate closet provisions, and a defective exterior drain. One house containing ten rooms is inhabited by twenty people who are disposed in the following manner:

On first floor two rooms are occupied by a man, his wife and two children; two other rooms are occupied by four Slovak men who sleep in one room; the remaining room on first floor is occupied by five Slovak men. The second floor also has five rooms, three of which are occupied by six Slovak men, who use only two rooms as sleeping apartments; and the two remaining rooms are occupied by one man.

The second house contains twelve rooms and shelters twenty-three people:

On first floor three rooms are occupied by a man, his wife and two children, and the other three rooms by a man his wife and five children. On the second floor three rooms are occupied by a man, his wife and one child, and the remaining three rooms by nine Slovak men, who sleep in only two of the rooms.

The third house has eighteen rooms and shelters forty-one people.

On first floor three rooms are occupied by a man, his wife and six children; three rooms are occupied by four Hungarian men; and the three remaining rooms by eight Slovak men, who sleep in two rooms. On second floor three rooms are occupied by a woman and her son; three adjoining rooms are occupied by a man, his wife and baby, and eight boarders, all Slovaks; and the remaining three rooms are occupied by eight Slovak men.

Thus the four houses shelter ninety-eight people—sixty-three men, eight women and twenty-six children, twenty of whom are under fourteen years of age. Three outside water-closets are provided but one is kept locked by the landlord, leaving only two for the use of tenants. No water is introduced into the houses and all water used for drinking and domestic purposes is secured from a well in the yard. Between one of the houses and the alley is a catch-basin which disposes of the waste from this group of tenements. For years this catch-basin has been clogged, the sewage draining over the top, down the alley, across the cement sidewalk and onto the public street.

Insanitary basements.

One of the worst examples of insanitary basements was found at No. — Cedar street, in a two story brick building. The first story was occupied by two saloons, a wood-working shop and a vacant store. The second story was occupied by three apartments and a Greek lodging house connected with the saloon below. The two interior apartments on the second floor received light only in the front and rear rooms. The middle rooms were dark. In one apartment a sick woman attributed her illness to the insanitary condition of the basements. The basements under the two saloons were in a shocking condition. In each case the ice box was allowed to drain from the first floor directly into the basement and no attempt was made to drain this room. Water covered with a green slime stood upon three-quarters of the floor. The remaining part of the room was covered with filth and rubbish whose offensive odor was apparent as soon as the cellar door was opened. No light or fresh air was allowed to enter this room which was almost entirely below curb level. All of the tenants on second floor complained of the condition of these basements or cellars, and said that the landlord had made no attempt to remedy conditions. At last the Health Department was notified and at present the tenants are awaiting results.

Sinks and closets in public halls.

An illustration of the tenement house evils, sinks and closets in public halls, was found at No. — South Water street. This is a four story brick building with basement, occupying the entire lot with the exception of a space about four feet wide between the rear wall and the rear lot line. The first story is oc-

cupied by three saloons and three kitchens. The second story contains Longshoremen's lodgings and sleeping rooms for the families conducting the saloons. The entire third and fourth stories contain apartments for families. No water is introduced onto the fourth floor and the tenants there are obliged to carry water from a sink at the rear end of the public hall on second floor. No closets are provided for the fourth story, the tenants there having access only to the two public closets in the hall on second floor. The plumbing in both closets and sink is defective.

In addition to this evil the building contains a considerable number of dark rooms. Eight rooms have no other opening than the door, and eight others receive a limited amount of light from windows openings upon halls which are themselves inadequately lighted. Some of these rooms were constructed in this manner when the building was erected, but others are the result of inadequate alterations for the purpose of installing a large number of small cell like rooms to be used as lodgings.

Dilapidated rear dwellings.

From Chestnut street, the southern border of the Jewish quarter, to the first alley north of Grand avenue, and from Second and Third streets on the east to about Ninth street on the west, the interior of blocks and the rear of lots present an array of sheds, shanties, dilapidated dwellings and a general appearance of shiftlessness so foreign to the larger and better part of Milwaukee that the investigator feels himself transported to a strange city. This section includes the Negro quarter between Wells and State streets and Second and Sixth streets.

This is not a tenement house district, however, as the dwellings are small, few containing more than one or two families, and the number of basement dwellings is limited. But the small houses are crowded thickly on a lot, sometimes so closely that not a single square foot of free yard space remains. Other evils are dilapidation, dirt, improper drainage, defective plumbing or none, open basements which become the receptacle for all manner of rubbish and an accumulation of garbage in back yards. In some places the only method of securing water on the premises is from the hydrant in the back yard in the immediate vicinity of the garbage pile.

Among surroundings such as these it is not strange that health is undermined, that men and women degenerate, that child-life is made sordid.

Situated so near the heart of the business district of Milwaukee, land values in this section are high. Present rents are high, considering the housing accommodations furnished. (A statistical study of rents is not published here as it would be of little use in forming judgment without an exact description of the size, location and condition of each apartment.) A great deal should be done immediately to improve the sanitary condition of the district. But it is doubtful whether any movement to make it a model residence district would be successful or commercially profitable. The majority of the people at present living there would be unable or unwilling to pay the advanced rents which would naturally be demanded for small model dwellings. The redemption and improvement of the section would seem to lie in its use for the erection of business blocks or manufacturing plants, some of which have already found location there.

STATISTICAL STUDY OF MILWAUKEE'S TENEMENT HOUSES.

Since it seems to be the intent of the law that this report shall deal with buildings known as tenement houses in the common meaning of the term, the main body of the report is concerned with that subject. But as the number of multiple houses, legally classed as tenements, is rapidly increasing in number in Milwaukee, it seems fitting to include in this report a tabulated statement concerning buildings of the sort.

Table I includes all multiple houses erected during the years 1898 to 1905, inclusive. Many multiple houses were erected before that time, but concerning these it is impossible to secure details.

TABLE I.

Houses containing more than one apartment.

Year.	Number of buildings according to number of apartments.																	Total No. of houses.
	2	3	4	5	6	8	9	10	12	13	16	17	19	20	24	35	37	
1898.....	205		7			1						2						215
1899.....	194	2	9													1		207
1900.....	171	1	3				2										1	178
1901.....	200	1	6			1	5					1				1		216
1902.....	210	3	4				4	2		1	1	1			2			228
1903.....	252	1	3	1	1		2			2						1		263
1904.....	371		9			3		4			2		1	1			1	392
1905.....	557	3	11	1		1	6	6	1	1	1	2	1			2		594
Total.....	2160	11	52	2		7	20	12	1	5	4	6	2	4	2	6	1	2293
Percent.....	94.0	0.5	2.3	0.1		0.3	0.9	0.5	0.05	0.2	0.2	0.1	0.1	0.05	0.1	0.3	0.05	100

This table shows the largest number of multiple houses erected during the last eight years to be those with two apartments, the number being 2160, or 94 per cent of the total number of multiple houses. The next in order are buildings of four apartments, 52 in number; and following those are buildings of eight apartments, 20 in number. The number of buildings containing eight and nine apartments exceeds the entire number of larger buildings containing from ten to thirty-seven apartments.

To tabulate the tenement houses of Milwaukee according to location is exceedingly difficult as no distinct tenement house district exists and many of the so-called tenements are scattered in widely distant parts of the city. Two definite districts do exist in which are located a considerable number of tenement houses, and in which the population tends constantly to grow more dense. These are (1) the largest part of the Third ward, including about 27 blocks inhabited chiefly by Italians, and (2) a part of the Sixth, Ninth and Second wards including about 17 blocks inhabited largely by Jews. Since the tenements outside of these districts can be grouped neither by wards nor by the nationality of the inhabitants they will be mentioned in the tables as "Scattered tenements."

Table II includes these three groups of tenements and classifies the buildings according to material, size and location on lot.

TABLE II.

Buildings containing or intended to contain three or more families and classed commonly as tenement houses.

LOCATION.	Number.	MATERIAL.			STORIES IN HEIGHT.						LOCATION ON LOT.	
		Brick.	Frame.	Brick & frame.	1	2	3	4	With base-ment.	Without base-ment.	Front.	Rear.
Third Ward - (Italian district).....	28	9	19	....	....	21	7	....	24	4	25	3
Parts of Sixth, Ninth and Second Wards - (Jewish district).....	15	2	13	....	....	14	1	....	15	....	15	....
Scattered tenements.....	24	5	18	1	....	21	2	1	15	9	17	7
Total.....	67	16	50	1	....	56	10	1	54	13	57	10

Table II shows about three-fourths of these 67 tenement buildings to be of wood. The remainder are of brick, with the exception of one which is of brick and frame. Of the total num-

ber by far the largest proportion are two story buildings. Of the 67 tenements, 54 contain basements, although not all of these are occupied by living rooms as will be shown in a following table concerning basements. The large rear tenement does not prevail to any great extent, only 10 of the buildings considered being so situated. Rear dwellings are chiefly small cottages which were built there before the larger buildings were needed, or were moved back to make room for other buildings on the front of the lot.

TABLE III.
Concerning Apartments.

Location of Buildings.	Enumeration of the Houses According to number of Apartments													Total.	Number of vacant Apartments.	Total Number of Apartments.
	Number of Apartments.															
	2	3	4	5	6	7	8	9	11	12	15	16				
Third Ward — (Italian district).....	2	11	7	....	3	1	1	1	....	....	1	1	28	23	138
Parts of Sixth, Ninth and Second Wards —(Jewish district).....	....	9	2	1	1	....	1	..	....	....	1	....	15	5	69
Scattered tenements. ..	....	5	9	3	3	....	1	..	1	2	..	....	24	11	112
Total.....	2	25	18	4	7	1	3	1	1	2	2	1	67	39	319	

Table III shows the buildings in each group tabulated according to the number of apartments in each. It also shows the total number of apartments in each group and the number vacant. In the Italian district the tenement houses of three apartments prevail in largest number; the next in order are houses of four apartments, and following those, the six-apartment houses.

In the Jewish district the houses of three apartments also predominate.

Of the scattered tenements the largest number are four-apartment houses.

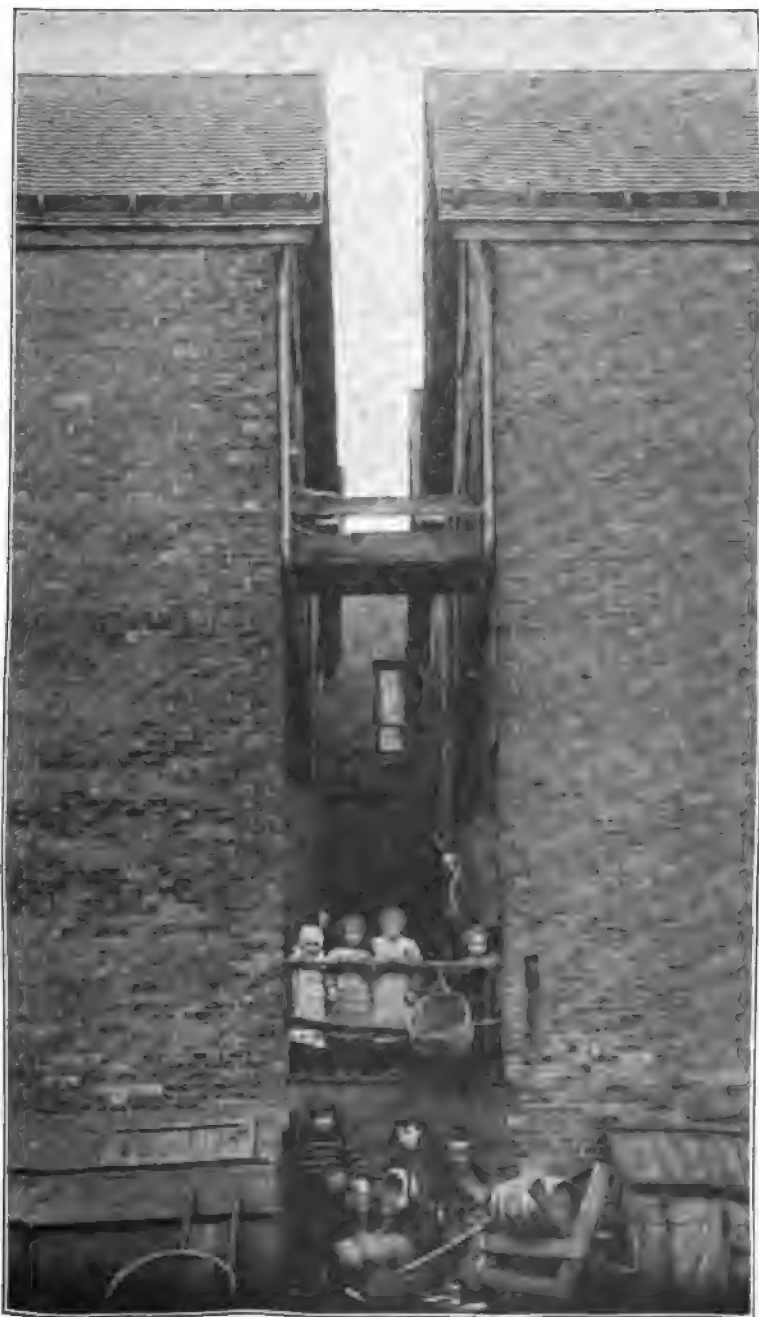
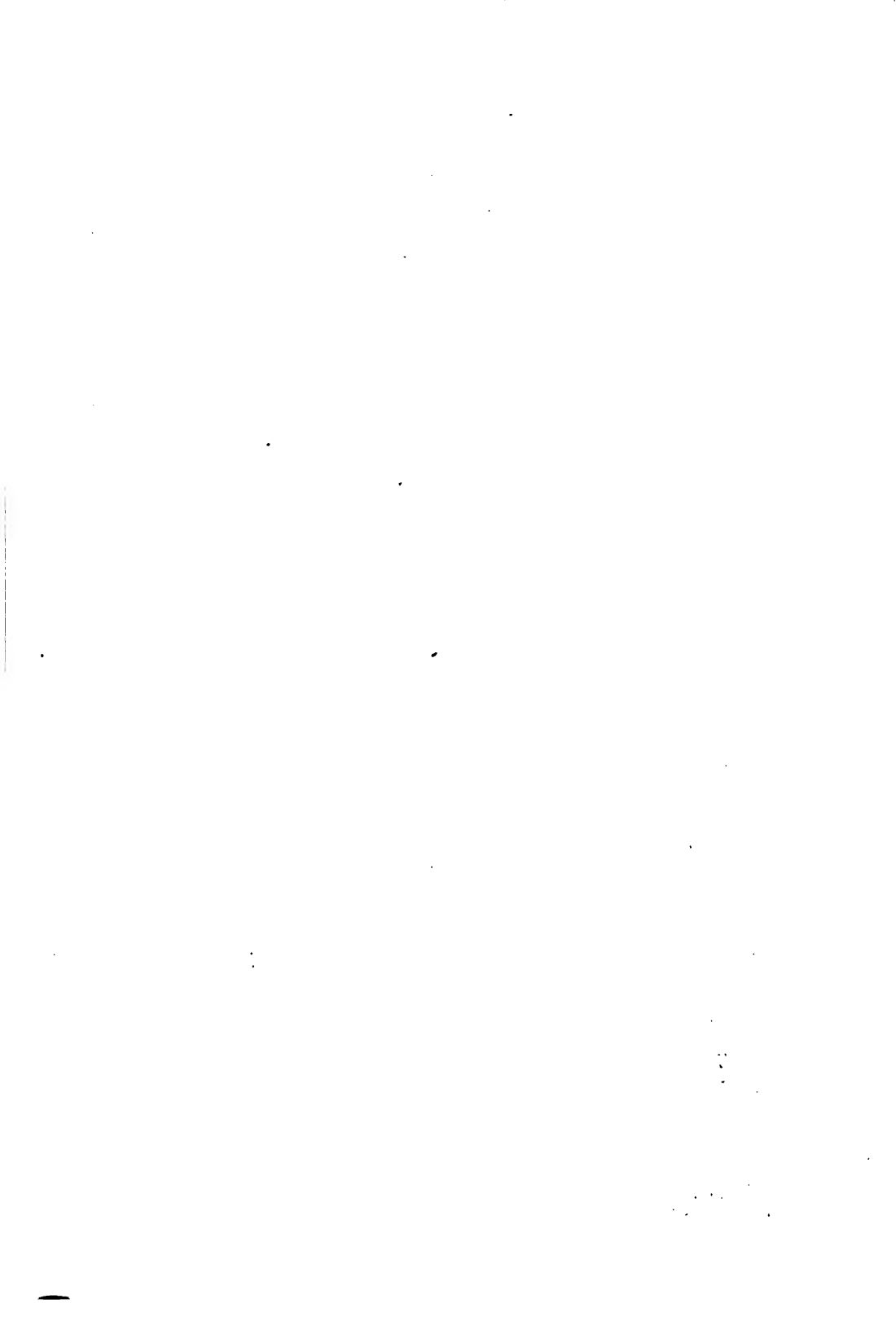


Illustration XIII.—Back-to-back tenements, four on one lot. Space between two front and two rear houses, 4 feet 11 inches. Basement dwellings below the level of the bridge on which the children stand. Lamps are kept burning throughout the day in rear rooms of basement and first story.



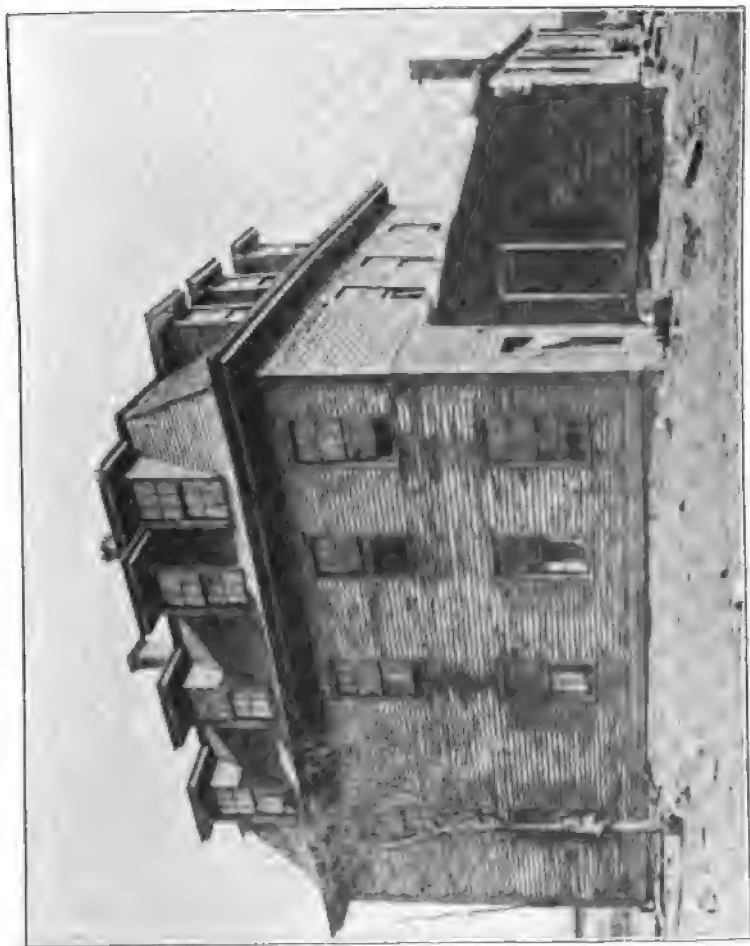


Illustration XIV.—Three story frame building occupied by forty-four persons. The building is structurally unsafe and without fire protection, plumbing or sewer connection. Between the time of first inspection and the time this view was taken the cornices had been patched, a trough taken in from a second story window, a new roof placed on the one-story addition, the basement boarded up and the front of the building painted.





Illustration XV.—Entrance to hall and single stairway leading to the third story of the building shown in Illustration XIV. No exterior fire escape.

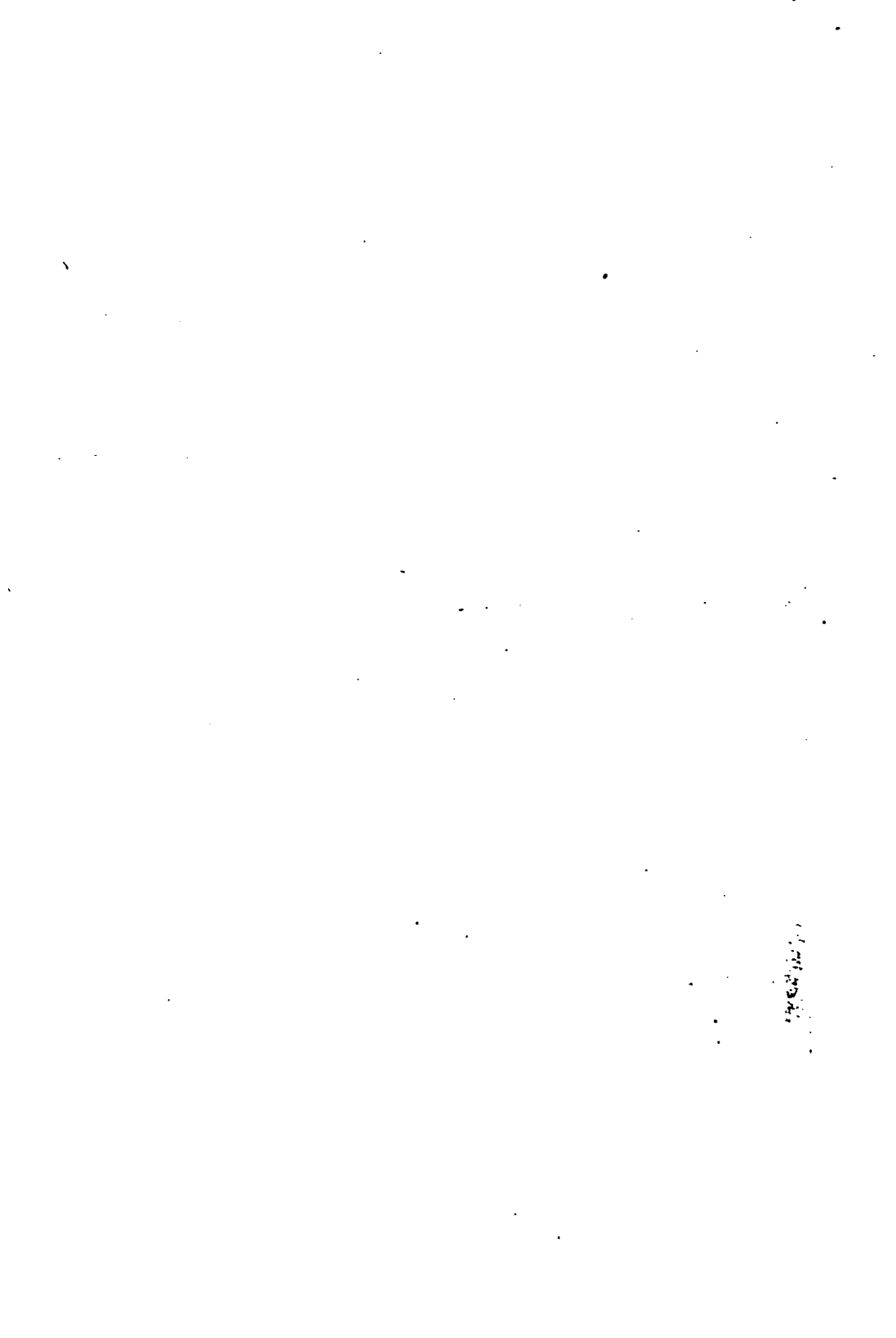




Illustration XVI. Sleeping room on second floor of building shown in Illustration XIV. The room is 16 feet long, 15 feet wide and 9 feet 6 inches high, and is occupied by seven beds and a mattress for an additional lodger. This allows 288 cubic feet of air space for each occupant. On the wall above the beds are box cupboards containing provisions. Wooden steamer chests fill the space under many of the beds. The occupants are Italians.

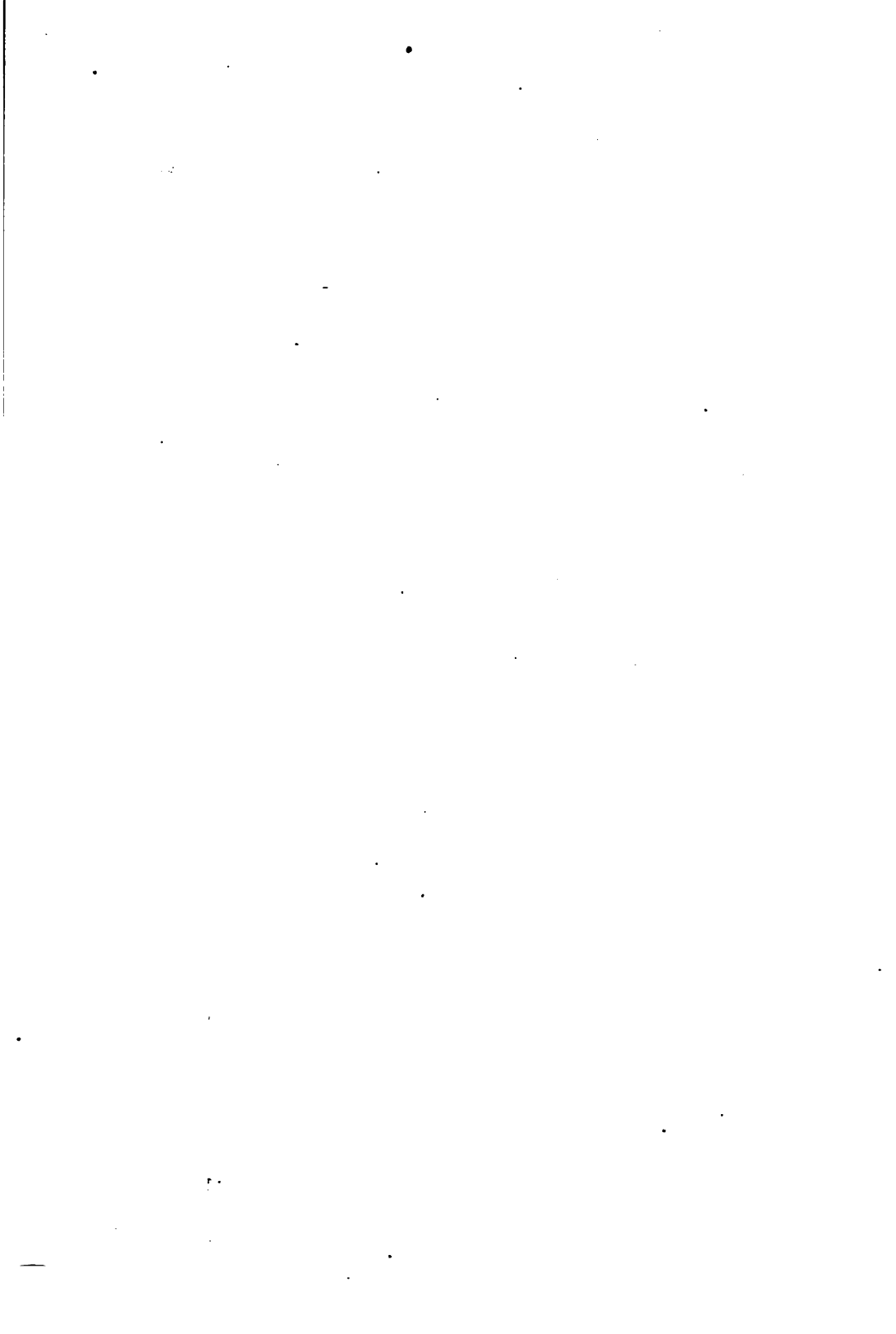


TABLE IV.
Inhabitants of tenement houses.

Location of building.	Occupants of Tenement Houses.				
	Number of families.	Number of people.	Lodgers.	Children.	
				1-7 years.	7-14 years.
Third Ward (Italian district)	116	669	181	87	84
Parts of Sixth, Ninth and Second Wards (Jewish district)	62	318	27	75	54
Scattered tenements	106	476	137	54	56
Total	284	1,463	345	216	194

Table IV gives a tabulated statement concerning the occupants of tenement houses. In the Italian district 116 families, including 669 people live in tenement houses. Of this number 181 are lodgers, 87 are children of seven years and under, and 84 are children between seven and fourteen years of age. In the Jewish district 62 families, including 318 people, live in tenement houses. Of these people 27 are lodgers, 75 are children of seven years and under and 54 are children between seven and fourteen years of age. In the scattered tenements are found 106 families including 476 people, and of these 137 are lodgers, 54 are children of seven years and under and 56 are children between seven and fourteen years. Thus the total number living in tenement houses includes 284 families, and 1463 people. Of the total number of people, 410 are children under fourteen years of age.

TABLE V.
Showing distribution of Nationalities in the tenements according to the number of houses in which they were found

Location.	American.	German.	English.	Polish.	Italian.	Irish.	Hungarian.	Austrian.	Hebrew.	Russian. (Other than Jew- ish).	Greek.	Slovak.	Macedonian.	Bohemian.	Syrian.	Arabian.	Brazilian.
Third Ward. (Italian district)	4	6	4	...	16	...	...	1	...	...	...	...	...	1	1	1	1
Parts of Sixth, Ninth and Second Wards (Jewish district)	...	1	...	...	...	...	...	...	15	...	...	...	...	...	...	...	...
Scattered tenements	3	18	1	8	2	1	5	...	...	1	1	6	1	...	...	...	...
Total	7	25	5	8	18	1	5	1	15	1	1	6	1	1	1	1	1

Table V shows the various nationalities living in tenement houses, according to the number of houses in which they were found. It was quite impossible to obtain the exact number of people of each nationality since all could not be interviewed, and the value of the table is only in showing the number of nationalities and the distribution in the different groups of tenements.

TABLE VI.

Stairs in tenement houses.

Location of buildings.	Buildings enumerated according to:—											Number of buildings
	Location of stairs.						Width of stairs.			Condition of stairs.		
	Inside.	Outside.	Both.	Front.	Rear.	Both.	2½ feet but not 3.	3 feet but not 3½.	3½ feet.	Structurally safe.	Unsafe.	
Third Ward (Italian district)	11	5	12	9	5	14	19	9	.....	21	4	28
Parts of Ninth, Sixth and Second Wards (Jewish district).....	6	2	7	3	1	11	5	9	1	14	1	15
Scattered tenements.....	7	6	11	9	1	14	11	13	...	24	.....	24
Total	24	13	30	21	7	39	35	31	1	62	5	67

Table VI gives a statement concerning stairways in tenement houses. Of the total number of houses 24 have inside stairways only, 13 have outside stairways only and 30 have both inside and outside stairways. Those buildings having only front stairs are 21 in number, those having only rear stairs are 7 in number; and those having both front and rear stairs are 39 in number. The majority of tenement houses have stairways between 2½ and 3 feet wide. While some of these stairways may be considered an insufficient means of egress, only five are structurally unsafe.

TABLE VII.
Sanitary condition of tenements.

Location of buildings.	Concerning rooms.										Concerning entire house.									
	Number of rooms.	Opening of windows.				Light and ventilation.			Plumbing in house.	Condition of house.			Habits of people.			Number of buildings.				
		Outer air.	Air shaft.	Rooms or halls.	None.	Good.	Fair.	Bad.		Good.	Defective.	N ne.	Sanitary.	Fair.	Insanitary.		Clean.	Fair.	Unclean.	
Third Ward (Ital. district)	541	500	....	36	5	475	18	18	16	8	4	8	7	13	7	12	9	28	
Parts of Sixth, Ninth and Second Wards (Jew. district)	265	210	....	21	4	241	6	18	10	3	2	3	2	10	3	2	10	15	
Scattered tenements	425	366	....	45	14	381	12	32	10	5	9	8	3	13	8	6	10	24	
Total	1231	1106	....	102	23	1097	36	68	36	16	15	19	12	35	18	20	29	67	

Table VII shows the sanitary condition of tenements according to the light and ventilation of rooms, and other elements which affect the entire house. Of the total number of rooms, 1231, 1106 open directly to the external air, 102 open to other rooms or halls; and 23 have no light or ventilation. In 1097 rooms the light and ventilation is good; in 36 only fair, and in 98 very bad. Of 67, the total number of buildings, 36 have good plumbing, 16 have defective plumbing, and 15 have none. In 36 cases the buildings themselves are insanitary and in 29 cases the habits of the tenants are careless and unclean.

TABLE VIII.
Basement in tenement houses and number of families in basement dwellings.

LOCATION OF BUILDINGS.	BASEMENTS.																	Number of families inhabiting basements.	
	Use.			Number according to—															
	Dwelling only.	Storage only	Dwelling & storage.	Height in feet.						Number of entrances.									
				5	6	7	7½	8	6	1	2	3	4	6	8	10	Total.		
Third Ward—(Italian district).....	8	12	14	1	4	4	1	8	9	6	14	1	1	1	1	..	21	29	
Parts of Sixth, Ninth and Second Wards—(Jewish district).....	8	3	4	....	1	2	..	9	3	6	7	1	..	..	..	1	15	14
Scattered tenements	1	14	....	3	4	4	....	4	..	7	4	3	1	..	..	..	15	1
Total	17	29	18	4	9	10	1	21	9	19	25	5	2	1	1	1	54	37	

Table VIII shows the total number of basements to be 54. Of these, 17 are used for dwellings only, and 18 for storage and dwellings, a total of 35 used wholly or in part as dwellings. These 35 basements are inhabited by 37 families.

Of the total number of basements 21 are eight feet high, 10 are seven feet high, 9 are nine feet high and 9 are six feet high. The largest number of basements are provided with two entrances, although a considerable number have only one.

No tabulated statement is made concerning the height of ceilings above ground. In many cases a basement ceiling a few feet above curb level is the entire height of the basement above lot level at the sides and rear, so that a table according to height above curb level would be somewhat misleading as to the height of the ceiling above ground.

TABLE IX.
Condition of basements.

Location of Buildings.	Amount of light and ventilation.		Method of lighting and ventilating.				Sanitary conditions.		Total number.
	Sufficient.	Insufficient.	Windows.	Doors.	Openings.	No ventilation.	Good.	Bad.	
Third Ward.—(Italian district) ..	13	11	18	4	1	1	14	10	24
Parts of Sixth, Ninth and Second Wards.—(Jewish district)	9	6	13	.....	.....	1	3	12	15
Scattered tenements.....	9	6	8	3	.....	4	8	7	15
Total.....	31	23	40	7	1	6	25	29	54

Table IX shows the condition of basements. Of the total number, 31 have sufficient light and ventilation and 23 have insufficient light and ventilation; 40 receive light and air by means of windows, 7 by means of doors, 1 is open and 6 have no openings whatever to the external air. The sanitary condition in 25 basements is good and in 29 bad.

TABLE X.

Miscellaneous information concerning basements of tenements.

Location of buildings.	Provision for drain- age.	None.	Water in basement	None.	Coal or wood.	None.	Ashes, refuse or garbage.	None.	Total.
Third Ward (Italian district)....	19	5	6	18	18	6	2	22	24
Parts of Sixth, Ninth and Sec- ond Wards (Jewish district)....	11	4	.....	15	6	9	1	14	15
Scattered tenements	10	5	8	7	12	3	1	14	15
Total.....	40	14	14	40	36	18	4	50	54

Table X gives miscellaneous information concerning basements. Of 54, the total number, 40 were drained, 14 had water standing on the floor, 36 contained wood and coal bins, and 4 contained garbage and refuse.

TABLE XI.

Showing kind, location and condition of closets.

Location of Buildings.	Kind.		L cation.			Light.		Ventila- tion.		Cleaned.			Condition.			Total Number.	
	Water.	Vault.	Yard.	Cellar.	Hall.	Apartment.	Sufficient.	Insufficient.	Sufficient.	Insufficient.	Regularly.	Irregularly.	Not at all.	Sanitary.	Fair.		Insanitary.
Third Ward— (Italian district).....	94	12	23	2		57	70	36	70	36	49	27	30	51	16	39	106
Parts of Sixth Ninth and Second Wards— (Jewish district).....	36	1	14	9		14	19	18	20	17	10	15	12	17	1	19	37
Scattered ten- ements.....	47	9	27	16	2	11	34	22	30	26	19	24	13	29	10	17	56
Total	177	22	64	31	2	82	123	76	120	79	78	63	55	97	27	75	199

Of the 67 tenements considered, only one was found to contain bath rooms. This was a sixteen-apartment building where each apartment had a bath room which was built against a partition wall and received its light through a small window opening to the kitchen.

Only one of the tenements considered was provided with a fire escape. Four others to which the state fire-escape law applies were lacking fire escapes.

No tabulated statement is made concerning the condition of tenement house yards. At the time of inspection the majority of them were dry and clean. Hydrants were found in 5 and pumps in 7.

Chickens were kept on the premises at 10 places and horses at 8 places.

The tenements included in the tables contained the following places of business: 4 grocery stores, 2 meat markets, 2 shoe shops, 1 tailor shop, 1 tin shop, 1 electrical supply shop, 1 hay store, 7 saloons, 1 steamship ticket office and 1 doctor's office.

STATISTICAL STUDY OF A TYPICAL BLOCK IN THE FOURTEENTH WARD.

The report of the Department of Health of the city of Milwaukee for the year 1905, shows the Fourteenth ward to have the largest population (24,700) and the highest death rate per thousand (15.87) of all the wards in the city.

A study of vital statistics soon proves that that alone is an unsafe criterion for judging housing conditions. Too many other elements enter to affect the death rate. But since basement dwelling is common among the Polish inhabitants, as is also some over-crowding in the small cottages, a statistical study of a typical block in the Fourteenth ward is here presented.

TABLE I
Concerning material, size, location and condition of dwellings.

Material.		Height according to stories.			Basement		Location on lot		Plumbing.		Sanitary conditions.			Total number.
Frame.	Brick and frame.	1.	1½.	2.	With.	Without.	Front.	Rear.	With.	Without.	Good.	Fair.	Bad.	
41	3	40	1	3	43	1	43	1	21	23	28	15	3	44

Table I shows that of 44, the total number of dwellings on the block, 41 are of frame and 3 of frame and brick. Nearly all of the houses are one story with basement. All except one are located on the front of lots. The proportions of those with and

without plumbing in kitchens are nearly equal. Sanitary conditions show 26 good, 15 fair and 3 quite insanitary.

TABLE II.

Dwellings classified according to number of apartments, rooms and families contained.

Number according to apartments.					Number according to rooms													Number according to families contained					Total number.
1	2	3	4	5	2	4	5	6	7	8	9	11	12	13	1	2	3	4	5				
17	23	2	1	1	1	4	10	7	2	11	4	1	3	1	22	17	3	1	1	44			

Table II shows a predominance of 2-apartment dwellings, and the next in order, 1-apartment dwellings. Arranged according to number of rooms, the table shows a predominance of 8-room houses, the next in order being 5-room and 6-room houses. Twenty-two houses contain one family each, and seventeen contain two families. Only eight houses contain more than two families.

TABLE III.

Inhabitants.

Total number.	Lodgers.	Children.	
		7-14 years.	1-7 years.
377	21	64	88

The total number of inhabitants in the block is 377. Of this number 21 are lodgers, 64 are children from 7 to 14 years of age and 88 are children under 7 years of age.

TABLE IV.

Basements.

According to use.			According to number of families.				According to number of rooms.								According to number of entrances.			Total number.
Dwelling and storage.	Dwelling.	Storage.	0	1	2	3	1	2	3	4	5	6	9	1	2	3		
11	23	6	6	34	2	1	11	8	7	13	1	2	1	13	28	243		

Basements arranged according to use show 26 used for dwellings only, 11 used for storage and dwellings and 6 used merely for storage. Thirty-four contain but one family each, two contain two families and one contains three families.

The largest number of basements contain four rooms. A considerable number contain but one room, these, of course, including the basements used simply for storage. Twenty-eight have two entrances, which are from the outside, usually at front and rear.

TABLE V.

According to height of basement and height of ceiling above curb.

Number according to height.							Number according to height of ceiling above curb										Total num-ber.	
5½ ft.	6 ft.	6½ ft.	7 ft.	7½ ft.	8 ft.	9 ft.	1 ft.	3 ft.	3½ ft.	4 ft.	4½ ft.	5 ft.	5½ ft.	6 ft.	7 ft.	7½ ft.		8 ft.
1	6	3	9	1	18	5	1	3	3	10	1	10	1	10	2	1		1
																		43

The largest number of basements are 8 feet high, including 18 of the 43 dwellings. Nine buildings have basements 7 feet in height, and 6 are 6 feet in height. The basement 5¾ feet high is used for storage.

Since the lot level throughout the block is equal to the curb level, a tabulated statement is given showing the height of the basement ceiling above ground in the 43 houses containing basements. Ten buildings have basement ceilings 6 feet above the ground, 10 are 5 feet and 10 are 4 feet above ground. The basements one foot and three feet above ground are used solely for storage.

TABLE VI.

Closets.

Kind.		Location.				Condition.		Total number.
Water.	Vault.	Yard.	Cellar.	Hall.	Apartment.	Sanitary.	Insanitary.	
13	36	37	8	1	3	47	2	49



Illustration XVII. An Italian family living room in the building shown in Illustration XIV. The appearance of the walls is an index of the general sanitary condition of the apartment.

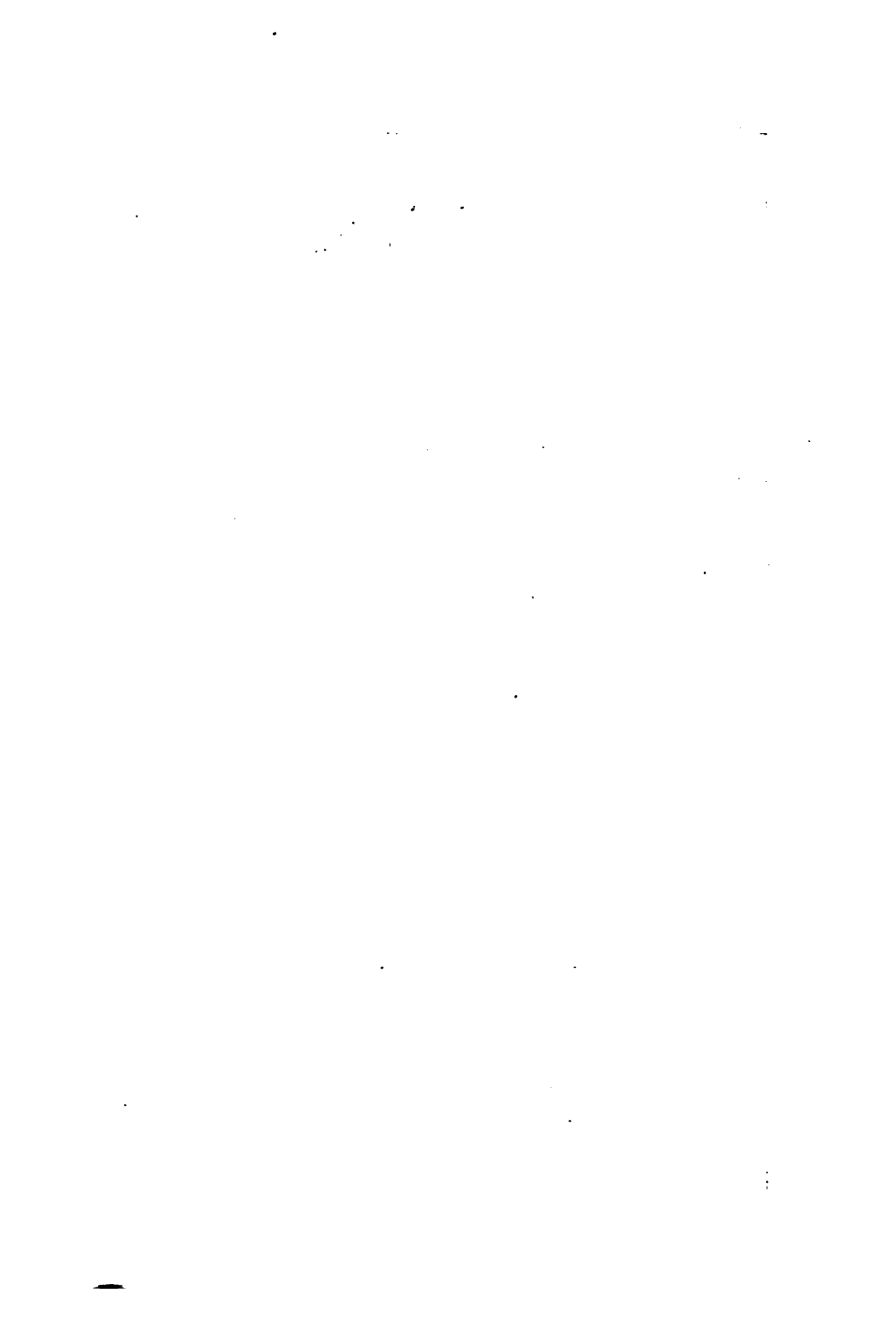




Illustration XVIII.—Typical cottages of Polish laboring men. The children in the foreground were playing in the street until the camera proved an attraction. Several 'little mothers' with their charges can be seen among them.



Illustration XIX. Typical cottages of German laboring men. Each house has a small yard in front and a garden at the rear.



SOME OBSERVATIONS ON THE FOREIGN POPULATION OF MILWAUKEE.

The majority of the foreign population of Milwaukee is German and Polish. The northern and northwestern sections of the city are settled almost entirely by Germans and here are found the typical homes of German laboring men which are shown in Illustration XIX. These people are thrifty and industrious, and seek as soon as possible to own the house and land which they occupy. The houses are so situated on the lots as to allow for a small yard at the front and a garden at the rear. The variation in architecture and decoration shows the exercise of individual taste in building. The houses are substantial structures furnished with all modern conveniences.

The Polish population covers nearly all of the southwestern section of the city including and beyond Mitchell street. In a few places north of Mitchell street they intermingle with the Germans; and a distinctly Polish district is found in the northeastern part of the city between Brady street and the Milwaukee river.

With few exceptions these people live in small frame houses, sometimes two stories high, but more often one story, with or without basement, as shown in Illustration XVIII. There is usually either one or two families in these houses; but frequently four or five families live in one house and take boarders. The houses are built well forward on a lot of 25 to 30 feet front, by 70 to 100 feet in depth. A space 4 or 5 feet in width exists between houses on adjoining lots. As most of the cottages have basement living rooms, the space between the front of the house and front lot line is chiefly occupied by the steps leading to the first floor. The rear of the lot is occupied either by another cottage similar to the one in front, or by a small barn, a chicken coop and a garden.

The Poles are thrifty and industrious but when out of work are sometimes given to quarrelling and pilfering. A very large number of the children go to the parochial schools where the language spoken is Polish. They leave these schools usually at the age of thirteen, and not being able to work lawfully until the age of fourteen, they do not enter the public schools but spend the intervening year around home.

The German desire of ownership and the Polish custom of

inhabiting small frame houses is probably what has given Milwaukee the reputation of being a city of homes.

The Italian population of Milwaukee has found its way into that part of the city formerly occupied by the Irish, who, since the Third ward fire and the incoming of the new people, have scattered over the city. At present, the Third ward south of Michigan street and east of Broadway is inhabited chiefly by Italians. These people are thrifty and industrious and are steadily improving in condition. The second generation is ambitious beyond the first. Some are moderately well to do. A few are commission merchants, others are small fruit and vegetable dealers, and a very large number are employed at street labor and railway construction. The Italian immigrants are chiefly unskilled day-laborers. Untidy they are in their habits but not destructive, and in the main they are sober, industrious and provident. Some drinking and hasty quarrelling occurs among them, but they do not interfere with other nationalities; and the crimes committed are the result of quick anger. The children go to the public schools but only for a short time. As soon as they are fourteen years of age they are put at work in the factories to help support the family. They are quick to learn and readily pick up a speaking knowledge of English, but a large number of ignorant immigrants constantly add to the illiteracy among them.

Among the Italian inhabitants of Milwaukee there are found large numbers of men who have come to this country with the intention of remaining from three to five years and then returning to Italy with their savings.

The Hebrew population early invaded the territory occupied by Germans and developed a distinctly Yiddish quarter which today is bounded by Third and Ninth and Chestnut and Cherry streets. The district is continually pushing out its borders, however, and driving the German population still farther to the north and west.

The Hebrew immigrants are chiefly Russian and Hungarian Jews, who, like the Italians when they arrive, are most unclean in personal habits, and are willing to stand much over-crowding. But they, too, are industrious and frugal. They come to this country to remain and make a home. They are seldom given to drinking and violence. Their first business venture is as rag picker or peddler and from that humble beginning they often

accumulate the means of going into an established business. Sometimes they themselves become tenement landlords, but the inconvenience they once endured makes them hardly more ready to mitigate the inconvenience and suffering of their tenants.

The Greeks living in Milwaukee are congregated in small colonies which are scattered in various sections of the city. A considerable number live in the neighborhood of State and Cedar streets between Fifth and Seventh streets, but other colonies are found in the neighborhood of St. Paul avenue, and on and near the northern end of Grove street. Some of these colonies consist of groups of men numbering from six to twenty, living together in an old house on the rear of a lot, as shown in Illustration IV. Other colonies center about boarding houses connected with saloons run by Greeks. The latter kind of establishment is the more permanent.

The Greeks are largely employed in factory work. A few are proprietors of small shops, while the young men and boys have almost monopolized the industry of boot-blackening.

Where a number of Greeks establish themselves in some deserted building, the house and surroundings receive no care, and insanitary conditions flourish. Remonstrances of the City Sanitary Inspectors are met by sullen indifference or lack of understanding. Many of the Greeks are given to drinking and quarrelling, and while the majority of them expect to remain in this country only long enough to save from \$300 to \$500, their habits are hardly as sober and industrious as those of the Italians or Jews.

The Austrian and Hungarian colonies also center around some boarding-house of their nationality. Some of these establishments are in dwellings and are conducted by a man and his wife. But more often they are above an Austrian or Hungarian saloon where the boarders spend all of their leisure time and a considerable part of their money. In one Magyar boarding-house the men paid \$4.00 a week for board and lodging. This boarding house was connected with a saloon and was situated in a dilapidated and insanitary frame building. Lodging consisted of a bed in a room shared by six or eight men, and the only bedding furnished was a mattress, a quilt and a pillow. The only water introduced into the building was in the kitchen, which, consequently, was also used as wash-room.

Tradesmen in the neighborhood of these establishments say

that the foreigners pay their bills promptly and are considered good customers. Like the Italians, Greeks and Slovaks, many of the Austrians and Hungarians are here only for a few years to earn and save a little money and then return to their own country, while others come to take their place.

The Slovaks in Milwaukee are the least united of all the foreign nationalities. Very little is known generally about them. Many people designate them by the general name, Slavonians, but in Europe they are known distinctly as Slovaks and inhabit the southern slope of the Carpathian Mountains, Croatia and Moravia. It is believed that there are over 100,000 at present in the United States. Few Slovak women come to this country; but if a man is thrifty enough to bring his wife with him his earning capacity is doubled for he immediately starts a boarding house which is very much in demand as these people live by themselves and have little communication with other nationalities. Very few boarding houses are found among them in Milwaukee. Consequently they live in groups of from six to twelve men, inhabiting two or three rooms in any part of the city where they can find a house so old that the rent is low. Illustration VII shows such an establishment occupied by nine men. Two rooms only were used as sleeping rooms, one of which is shown in Illustration VIII. The rent for the three rooms was \$4.50 a month.

Fortunately the furnishing is scanty in these rooms occupied by men, as little or no care is given them. The sleeping rooms, however, are crowded, from two to five beds being found in a small room. Illustration VIII shows four beds in a room 15 ft. 2 in. long by 8 ft. 6 in. wide and 8 ft. high. Stored under the beds and in corners are wooden steamer chests with the steerage labels still intact. In addition, a tall wardrobe occupies a corner in the end of the room from which the picture was taken. The bedding in these Slovak establishments consists of a mattress stiff with dirt, an equally filthy quilt, and a pillow with a grimy red or blue cover or none.

The room used as kitchen has generally a cook stove, a pine table and a few chairs or boxes. The floor is covered with dirt and refuse. On the stove is the empty coffee-pot and frying pan, and on the table a pile of unwashed dishes, a few crusts and half eaten loaves of bread remaining from the last meal, and pieces of raw meat still wrapped in paper. And over every

thing flies swarm at their scavenger work before flying away to the kitchens of more cleanly inhabitants or to the public fruit and vegetable markets. This last element suggests a very obvious connection between the alley and the avenue.

FIRE-ESCAPES ON TENEMENT HOUSES.

Tenement houses are primarily intended for the housing of a large number of people in a limited area. Such buildings shelter, by day and by night, people of all ages and conditions, from the young and helpless to the aged and infirm. For such buildings, surely, the necessity for fire protection, and adequate fire protection, is plainly apparent.

Many cities and states have laws requiring fire escapes on all flat buildings, tenement houses and lodging houses, more than two stories high. But the details concerning size, quality, construction, and the choice of ladder or stairway, are left to the discretion of the local fire department, the district police or the state factory inspector. Manifestly, under conditions such as these there can be little uniformity in the enforcement.

The unsteady vertical ladder should never be permitted on tenement houses. And the vertical ladder, attached to the outer edge of a balcony without a manhole, (thereby necessitating climbing over the railing and grasping the ladder from the outside) is certainly a menace rather than a protection to the lives of women and children.

The present fire-escape law of the state of Wisconsin requires an iron fire-escape on every tenement house more than two stories high designed for occupancy by twenty-five or more persons. This, of course, covers the larger apartment and flat buildings but it leaves a large number of buildings more than two stories high, occupied on the third floor by living rooms and sleeping rooms, without fire protection. The larger, flat buildings have front interior stairways and rear exterior stairways as well as iron fire-escapes, usually on the front. The smaller flat buildings, while not containing enough people to legally demand a fire-escape have an added danger in that the stairways above the second floor are usually narrower, although in the better class a front and a rear stairway are to be found. In the older class of tenement buildings it is not unusual to find that the third floor is reached by only one narrow stairway, while the

building itself, containing a little less than twenty-five persons, is without a fire-escape. Consequently if the single stairway should be cut off by fire all of the occupants of the third floor would be without means of escape. The danger of fire in these buildings is great, in that the buildings themselves are old and dilapidated, and stoves are used for heating as well as cooking. A few cases were found where tenements had two stairways above the second floor with only one available, the other being unsafe and in need of repair. The landlords had refused or neglected to make the necessary repairs as long as the other stairway was available.

All non-fire-proof buildings over two stories high which are used as flat buildings, tenement or lodging houses should be provided with iron stairway fire-escapes. If only one such fire-escape is provided, it should be on the front. The fire-escape is used by the firemen in reaching and rescuing tenants as well as by the tenants in leaving the building. Investigation has shown that the majority of tenement fires originate in the basement or the kitchen. Fires starting in the kitchen would cut off escape by means of a rear fire-escape. Architects and owners of buildings sometimes object to placing fire-escapes on the front of their buildings, claiming that it mars the artistic effect. To put up artistic fire-escapes or to construct the building fire-proof are alternatives which easily suggest themselves. And at all times a good fire-escape is a silent witness to the value placed upon the safety of human lives.

A fire-escape on the rear of a building or in a court is much more apt to become encumbered than one on the front where it is at all times open to public inspection. The sanitary inspectors of the health department are not concerned with fire protection of buildings; the duties of the police rarely take them into back yards and courts; the building department is occupied with the construction of new buildings and the condemnation of old ones structurally unsafe; the fire department is occupied with the extinguishing of fires, and the members are trained for this work. Consequently the work of inspecting fire-escapes to keep them unencumbered and easy of access is neglected until a fire occurs.

In some cities where tenement houses, lodging houses and other similar buildings are located side by side, the fire-escape law is surmounted by placing wooden bridges or narrow iron

gratings from one house to another across the court, air shaft, or open space. This is a money-saving and not a life-saving scheme. Any such narrow open space acts as a flue in conducting fires from floor to floor or house to house. And any such provision, besides being useless in case of fire, tends to obstruct the lighting and ventilation of lower rooms.

REAR TENEMENTS.

The rear tenement, whether large or small is to be found in every city of size. The general impression, acquired without investigation, is that a rear tenement is a building erected upon the rear of a lot, behind a store, tenement or dwelling house already erected upon the front. As a matter of fact, exactly the contrary is what has occurred. The rear building, in almost every case was on the lot first, whether originally built at the rear or moved back to make place for a new building on the front of the lot. Many facts support this theory, and none more strongly than the very apparent difference in the age of the buildings, which is evident in the method of construction, the system of plumbing, the sanitary provisions, and the degree of decay due to the action of the elements. The testimony of old residents whose memory reaches back to an early day bears out the theory with regard to rear tenements in the city of Milwaukee.

Investigation in other cities has shown the same condition. The New York Tenement House Commission of 1900 states that the original insurance maps of that city issued in 1852 show a great number of such houses located at the very back of the lot, with the whole front of the lot left entirely vacant, indicating clearly that it was customary at that time to erect dwellings at the rear of the lot, leaving the entire space at the front as a yard or garden. The Commission also calls attention to the fact that the first tenement house law of New York enacted in 1867 expressly prohibits the erection of a building on the front of any lot where there is already a building on the rear of the same lot, and the Commission maintains that if it had been the custom to erect the rear building later than the front one the law would have been expressed in exactly the opposite way.

Ever since the beginning of tenement agitation the rear tenement has been the subject of condemnation. Whether this is wholly warranted because of its location is open to dispute. The fact that one building is behind another, rather than beside it, does not condemn it. The question to be decided is, When are rear tenements good and when bad, and whence came the general impression that all rear tenements are bad?

In cities having rear tenements vital statistics have shown the death rate in this class of buildings to be very high, and that fact has been carelessly attributed to the type or location of the buildings. Any one studying the subject of vital statistics soon discovers that the death rate alone is an unsafe criterion by which to judge the housing or sanitary conditions of the various sections of a city. Too many other elements affect the death rate. Race characteristics, occupation, diet, relative ability to procure proper nourishment and protection against climatic change, all these elements, as well as the sanitary condition of the dwellings and surroundings, enter into the subject of the death rate. In the city of Washington, for instance, the death rate in the rear tenements and shanties along her complex alleys is high, and in those sections occupied by Negroes it is highest. It is a well known fact that people of mixed race are less able to withstand disease than those of distinct race. A striking example of this is found among the Mulattoes and other Negroes of northern cities who are notoriously the victims of tubercular and other pulmonary diseases whose ravages they have not the vitality to withstand.

In New York a peculiar and apparently contradictory element has been found in the death rate for two distinctly tenement districts. In one ward the death rate was much higher than the death rate for the whole city, sometimes twice as great. In another ward one-half mile away the death rate was only one-half as great as the average death rate for the city. In the quarter having the highest death rate the houses were not as high, were less crowded, and were more sanitary than in the other. The explanation had to be sought, therefore, in other causes than the character of the buildings. Where the death rate was highest the population was chiefly

Italian, a race among which the death rate is generally high in this country. They do much of the excavation and trench and sewer digging,—work which through its dampness tends to lower the vitality of the body and make them more easily the victims of pneumonia, tuberculosis and other lung diseases; and they seem disinclined or unable to adapt their diet to our colder climate, trying in our northern states to live upon foods which have furnished sufficient vitality for the climate of Naples or Sicily.

The other district, more crowded and insanitary was inhabited chiefly by Jews and to race characteristics, occupation and cleanliness and healthfulness of diet must be attributed the lower death rate, in spite of insanitary surroundings.

One possible explanation for the high death rate in rear tenements may be found in the fact that these houses being generally first on the lot are the oldest, have less of the modern sanitary provisions and are more often in a state of dilapidation. Therefore the rents are lower, and the buildings soon become the shelter either of the poorest part of the population, who, unable to pay for better housing, are also underfed and ill-cared for; or else of a class able to pay higher rent, but whose standard of living requires no better housing conditions. Among both classes the rules of health and sanitation are unobserved, leaving them more liable to the inroads of disease.

Considering the moral standard maintained in rear tenements it is held by many that such buildings are at a disadvantage simply on account of their location, hidden behind higher buildings and away from public scrutiny; that the narrow, dark passage-ways and courts leading to them furnish hiding places favorable to the development of vice and crime. It is quite true that these alleys and passage ways, while coming under police surveillance, do not feel the salutary effect of constant public contact; and just as physical disease thrives best in close dark quarters, so moral disease flourishes easiest in dark and hidden places.

If it be proven true that the rear tenement house is at a disadvantage on account of its location, how much greater must be the evil of front and rear apartments in the same

building, in the style of the "dumb-bell" tenement, where the open passages, and courts are merely replaced by public halls, which have the additional evil of lack of light and ventilation.

One type of rear tenement which can not fail to be bad is the back-to-back tenement, one house facing upon the alley, back-to-back with the front house facing upon the street, with the space between the two houses varying from a few inches to a few feet, and the space between these two houses and the buildings on the adjoining lots reduced to the width of a man's hand. Windows opening upon such narrow air spaces are almost useless for lighting purposes in the lower stories, and leave the rooms in total or semi-darkness throughout the entire day. The space between the buildings becomes the depository for garbage, rubbish and waste, so that the existing windows which are quite useless for lighting become positively dangerous for purposes of ventilation and are permanently nailed up.

Such houses can be considered sanitary only when there is a space of 20 to 30 feet between the front and rear houses; when there is a yard of 10 to 15 feet in width across the entire lot back of the rear tenement; and when the space between the houses and buildings on the adjoining lots is sufficient to permit the removal of rubbish and the use of the windows for light and ventilation.

SANITATION IN TENEMENT HOUSES.

Owing to limited facilities available, no special scientific report is made on tenement construction or plumbing. Only general principles of plumbing, drainage, water supply, lighting and ventilation were applied in the inspection, with incidental attention to garbage disposal, cellars, yards and closets.

The inspection was confined to those buildings which from their condition and occupancy would naturally be classed as "tenement houses," in the common meaning of the term, including all types of tenement buildings from the old and dilapidated dwellings to those of new and safe construction which lack, however, the sanitary conveniences required by

the better class of flat and apartment houses; and it included also many of the cheap lodging houses and boarding houses conducted by foreigners, which establishments are so insanitary, so over-crowded and so numerous as to demand investigation and legislation. Adverse criticism is not based upon sentimental concern for the comfort of tenants. Only those conditions are demanded which will promote and preserve healthfulness, cleanliness and morality. And it is assumed that these ends are not subserved unless tenants are provided with buildings which are structurally safe and sanitary, proper water-closets, a pure and ample supply of water for drinking, washing and cooking, and with provision for the speedy and safe removal of all waste.

Roofs, ceilings, walls.

Houses were occupied in which the roofs were sagged and leaking, allowing rain to penetrate to the ceiling and causing the plaster to fall. Tenants reported that the landlord or agent refused to make repairs. Many dwellings showed that in spite of the passing of years and the frequent change of tenants no painting, papering or whitewashing had been done. This common and necessary means of disinfecting should be made compulsory at frequent periods; and whenever wall paper is placed upon a wall or ceiling, all existing paper should be removed and the walls thoroughly cleaned.

Water supply, sinks and baths.

The water supply in the majority of the buildings examined was secured at the sink in the kitchen, or, where water was not introduced into the building, from a hydrant in the yard. In a small number of cases, sinks were found in the public halls, but these were in very old tenements or buildings not originally intended for that purpose, but later partitioned off into apartments.

Sinks were of cast iron or sheet metal. If of the latter type the space below was cased up and in many instances the wood work was damp and decayed. The waste pipes were trapped with lead bend traps close to the sink. In the majority of cases the water supply was found to be sufficient, although several cases were presented in which the pressure

was strong enough to supply only one floor or apartment at a time.

No fixed wash tubs were found in any of the houses inspected. The tenants used wooden tubs placed on chairs in the kitchen.

Bath tubs were found in only one of the houses inspected, and this building showed by its general construction that some attention had been given to sanitation, light and ventilation, although the arrangement of rooms was faulty. Rents here ranged from \$10 to \$15 per month according to location and number of rooms. This therefore drew a better class of tenants, who reported that the bath tubs were much used, especially in hot weather. Tenants said that if a single shower bath was furnished it could be used by more than one family, but tubs could not be so used for fear of infection.

The soil, waste and vent pipes were, in the majority of cases, concealed from view between the walls or behind wood work. Exposed plumbing is at all times safer and better. In such case, the original work is apt to be better and in case of defect or accident can be more readily inspected and repaired.

Cellars.

The condition of cellars in tenement houses is of much importance since the air from cellars is distributed more or less through the whole building. Many of the cellars inspected were totally dark or else badly lighted and unventilated. No artificial means of lighting was provided so that even in the day-time it was necessary to carry light into them. Considering the amount of paper and rubbish found in many cellars, and the careless way in which tenants used matches there at the time of the inspection, it is astonishing that more fires have not started in tenement cellars than are shown by the reports of the local fire department.

In the majority of cases the entrance to the cellar was from the public hall or from the outside. A majority of the cellars were dry at the time of inspection; many, however, were damp, and an unfortunately large number were wet, some with pools of water standing on the floor. It is quite probable that many of these cellars are flooded during rainy sea-

sons, and in several instances tenants stated that such was the case.

A very few of these cellars had cement floors. Many had wooden floors, and a large number had simply the earth with no floor covering. In a large number of cases there was no ceiling in the cellars, the floor beams being exposed so that dampness and odors could easily penetrate to the upper rooms.

Wood and coal bins, when not located in outside shelters were in the cellars.

Areas.

Front areas and window areas were often filled with leaves, waste paper and rubbish. Especially was this true where window areas were below the level of the sidewalk and the opening was covered with an iron grating, leaving the window the only means of entrance. Where the basement was used as a dwelling this condition became a more serious menace.

Yards.

The condition of yards varied largely with the character of the tenants or the business conducted upon the premises. In the Jewish quarter the premises occupied by peddlers, rag-pickers and junk-dealers were too often an advertisement of the occupation of the inhabitants. In addition, a stable containing horses was frequently found in close proximity to the basement windows of an adjacent dwelling. In the Italian quarter, also, ill-kept stables were found close to rear dwellings on premises occupied by fruit-venders.

Garbage disposal.

The present investigation has found the problem of garbage disposal only partially solved. Complaints were met in almost every quarter that garbage collections were altogether too infrequent, especially during hot weather. In some places tenants reported that garbage was allowed to stand for several weeks, until sickness resulted in the neighborhood, whereupon complaint was made to the Health Department. In certain places, particularly in the section already described west

of Second and Third streets the piles of garbage at the rear of dwellings, cheap lodgings, small shops and eating houses was mixed with boxes, lengths of stove-pipe, old hats, tin cans and other rubbish which furnished some excuse for its tardy removal by the Health Department. But the chief reason, apparently, for the infrequent removal of garbage is that the capacity of the City Garbage Plant is inadequate for the needs of the city. Only a limited number of loads can be disposed of daily; consequently every thing beyond that must remain uncollected.

THE RELATION OF HOUSING CONDITIONS TO TUBERCULOSIS.

In view of the proven fact that a definite relation exists between insanitary housing conditions and the spread of tuberculosis, and that the report of the Wisconsin State Tuberculosis Commission shows infected buildings to exist in the city of Milwaukee, which buildings have come within the scope of this investigation it seems fitting that reference should be made to the subject in this report.

Dr. George M. Kober of Georgetown University says, "It has long been known that scrofula, rickets and other chronic forms of tuberculosis are far more prevalent in dark, damp and insanitary houses. The children are anaemic and puny as plants reared without the stimulating effect of sun-light. Add to this the fact that dampness abstracts an undue amount of animal heat, lowers the powers of resistance, and favors the development of catarrhal conditions which render the system more vulnerable to tubercular infection and we have a reasonable explanation why these diseases prevail especially in basements or houses below grade or otherwise unfit for human habitation."

Tuberculosis takes many forms and may affect any organ of the body. It most often involves the lungs and is then called consumption, but in other forms it affects the skin, the lymph glands, the joints and bones, the throat, the intestinal canal, the coverings of the brain, or any of the other organs and tissues of the body. But whatever form the disease takes it is produced by the same agent, the tubercle bacillus. The form most easily communicable, however, is pulmonary tuber-



Illustration XX.—Map of Milwaukee showing location of tuberculosis cases treated at the County Hospital from 1893 to 1903. It is interesting to note how closely these tuberculous districts conformed with the districts covered in the investigation of insanitary housing conditions. (Map lent by Dr. Gustav Schmitt of the State Tuberculosis Commission, 1903-1906.)

culosis or consumption, for in this disease the germs in enormous numbers are constantly being thrown off from the affected part. Through the ignorance or carelessness of the sick person this disease-laden waste is allowed to lodge where it becomes dry and pulverized and in this way finally floats in the air to become a menace to the health and lives of hundreds of other people. Distant separation from affected persons is no sure protection from the disease. The dry germs will live for many months and may be carried by wholly unsuspected mediums to distant places. Sweat-shop clothing of all sorts may be made at home by tuberculous patients; men and women suffering with the disease will often work on in factories whose product is distributed broadcast to the public; clerks serving the public in stores may come from infected homes; germ-laden dust of the street may blow into fruit stand and market; and the public goes on, indifferent to the danger, allowing infected spots and disease-breeding conditions to exist and their victims to go about unhindered, spreading the means of death before they themselves succumb.

The degree of healthfulness of the community is of vast significance to every individual in it, for upon the general healthfulness the relative freedom from sickness and the probable lifetime of every individual depends.

It is believed upon careful estimate that the total number of deaths from tuberculosis in Wisconsin is between 2,100 and 2,200 per annum, and that the total number of cases at present existing is between 9,000 and 10,000, of which 1,800 to 2,000 reside in Milwaukee.* Since badly lighted, ill-ventilated, infected buildings are one of the most important elements in the development and spread of tuberculosis it is quite as necessary to wipe out the disease-breeding conditions as it is to treat the disease already established if the terrible White Plague is to be conquered, or even checked in its dissemination.

*Report of State Tuberculosis Commission.

THE NEED OF PARKS AND PUBLIC PLAY GROUNDS IN CROWDED DISTRICTS.

It is quite impossible to carry on an investigation of housing conditions in slum districts or crowded quarters without becoming impressed with the crying need of small public parks in such localities. For the regeneration of districts whose standards are low, for the maintenance of yet healthy physical and moral life carrying on the brave fight against adverse conditions, and for the sane and healthy development of the young life starting with the awful handicap of poverty, ignorance and neglect, the value of such public parks with their sunlight and pure air, their freedom coupled with order and cleanliness, can not be over estimated. The very difficulty of maintaining in them the regenerating qualities shows how great is the need of just such places.

In establishing such parks one of the chief factors to be reckoned with is the demand of child life, the necessity for some place distinctly set aside for recreation, a place for children to work off their abundant animal spirits in the natural form of play. Under present conditions many children in the city of Milwaukee have no such place except the alley and the street. In the first place, these places were not meant for play. They were meant for traffic. To use them as play-grounds is an encroachment on public utilities and will sooner or later be met by the interference of the law. To stifle perfectly natural and healthy impulses in this way, will, even in the mind of a child awaken revolt against unjust conditions which leaves for him no place, and will develop in later years that sense of hostility to the guardians of public order which in the end leads to the development of a criminal class.

To beautify a city by establishing large parks upon its outskirts and wide boulevards within its finest residence portions is a fitting tribute to civic pride; but it is false economy when done at the expense of human welfare in neglected unlovely places. Of what value in the everyday lives of children in the Third ward are Humboldt Park and Lake Park? And of what value in the everyday lives of children in the Second and Fourth wards are Washington Park and Mitchell Park? At most these parks can be the resort of the down town dwellers

only on Sundays and holidays and then only of those who feel able to spend the car-fare, which is always an item to be considered by the poor. To be of greatest value such breathing places should be within walking distance, and experience has shown that boys and girls, and mothers with little children will give up the trip if it is more than seven blocks, particularly if it is necessary to cross a busy thoroughfare. Beyond that little children can not be trusted to go alone.

There still remain, in some of the down-town districts of Milwaukee, open places which could be used for the establishment of public parks. In time, however, these will be built upon and so the remaining breathing places destroyed. If the public authorities are going to allow builders of flat and apartment houses to encroach so upon the yard spaces as to leave practically none, they will in time have to pay for their neglect by condemning and destroying what has been built. It is a long, difficult and expensive process to get whole blocks of insanitary buildings destroyed and the land acquired for public purposes. It would be far cheaper and much wiser to acquire the land while the need is known and the task easy.

CONCLUSION.

To describe the alleys, tenements and insanitary districts in Milwaukee is not to give the impression that Milwaukee is worse than other cities but to show that it is like all others in having a housing problem. And the subject becomes a problem when conditions have developed that call for state legislation to prevent their further development and to remedy existing evils. In any city amid luxury and wealth a slum element can develop. People of careless and undeveloped standards drift naturally toward the hidden places where they will not be disturbed. To allow the growth of a slum district is economically and morally a grave mistake. In it are bred poverty, misery and crime. It is a large factor in furnishing the recruits of the police courts, the hospitals and the almshouses. Sooner or later society must assume the burden and pay the penalty of its neglect.

One of the greatest factors in the redemption of the slum classes is the restoration of the family to its proper share of space, natural light and air and the cultivation of the domestic

art of cleanliness. Dr. John Griscom speaking of the latter, said, "The cause of unclean habits among the poor is not to be sought wholly in the preference for dirt or even a natural un-acquired negligence. Moral degradation, induced by circumstances of life, feelings of despair induced by utter poverty, the sight of suffering families never absent from thought, prostrate in many a desire for a better appearance and put out of their power more comfortable personal habits. Not the least potent among the causes, I think, may be ranked the uncertainty of the tenure of the home, which the unfeeling cupidity of the landlord may sever at any moment. From the narrow space of four bare walls and a broken ceiling a whole family may be expelled at a moment's notice upon the non-payment of rent at the precise time." Even where the poverty is not so great and where the blighting effect of despair has not yet entered, the effort to maintain cleanliness is a hopeless struggle in a contracted apartment occupied by many people, where the few rooms are put to every conceivable domestic purpose, where many families use in common the same entry, hall, stairs and yard, the last badly drained and filled with rubbish and offensive things, where children can play only in ill-kept streets and alleys, and where water, the great cleanser, is hard to come at.

It is a sad fact that the people whose occupations are among the grime and dirt have the poorest facilities for keeping clean. This is partly due to their own poverty, and partly to the indifference of landlords or employers who only draw incomes without discharging social responsibility. There is a class of people with more anxiety for gain than philanthropy, who through a few discouraging experiences are led to the general belief that the industrial classes have a passion for ruining what is good and new and that they are unworthy of conveniences and comforts.

There is another class, enthusiastic but misguided, who fancy in a vague way that the raw undeveloped classes have the same intelligence, and refinement, the same character and good judgment, which they see in others without realizing that it is the product of heredity, education and good environment. These look upon the great masses of immigrants constantly coming to our shores as unfortunates upon whom it is only necessary to precipitate ideal conditions to have them pursue an ideal existence.

Both these sorts of thinkers take the narrow view and come far from reality and practical action. There are large bodies of immigrated population among our laboring class in whom ignorance, uncleanness and a mean standard of living are inbred. But, nevertheless, the majority of them are our street laborers, and those who do the hardest, most drudging work in factory, mill and mine. They do a large part of our very necessary work and are a factor which cannot be overlooked or despised. Society is educating their children and so should society educate them to a higher standard of living which is compatible with health, decency and American ideals. This, their real education, cannot be provided by circulars printed in foreign languages and benevolently distributed among them. But patient enduring effort must force them to adopt, if they would live among us, a mode of life conducive to health, intelligence and morality and must provide the conditions and environment to make such life possible for them.

To that end then the State should exercise its jurisdiction to supply the lack of individual wisdom and justice in those who at present control the situation. The gain in public regulation made at a time when public opinion has been centered on the subject should not be lost when this influence is diverted and the field left open for selfish interests to assert themselves. Laws regulating housing and sanitary conditions should be comprehensive and explicit. No half-way measures should be allowed to postpone the realization of what is sane, healthy and moral. Discretionary power is not often to be trusted. In the majority of cases the exception becomes the rule.

All of the elements of unsatisfactory housing conditions exist to some degree in Milwaukee. And since they do exist the time is ripe for their inspection and public regulation. President Roosevelt has said of similar conditions that if a community does not realize and assume its legislative responsibility today it will have to pay a terrible penalty of financial burden and social degradation in the tomorrow.

To prevent the development of wrong conditions works no hardship to any one; to destroy them after they do exist does work hardship to some. A tenement and lodging house law, enacted now and applying to all cities of the first and second classes will in the years to come save the cities of Wisconsin

from the experience of larger places whose present over-crowding, poverty, disease and crime result primarily from the neglect of the habitations of the poor at a period when they could have been cared for successfully.

APPENDIX.

TENEMENT REGULATIONS OF NEW YORK.

Section 17. Stairways.—Each flight of stairs mentioned in the last three sections shall have an entrance on the entrance floor from the street or street court, or from an inner court which connects directly with the street. All stairs shall be constructed with a rise of not more than eight inches and with treads not less than ten inches wide and not less than three feet long in the clear. Winders will not be permitted except in a tenement house provided with a power passenger elevator. Where winders are used, all treads at a point eighteen inches from the strings on the well side shall be at least ten inches wide.

Section 18. Stair halls.—The stair halls in all non-fireproof as well as fireproof tenement houses hereafter erected shall be constructed as in this section and the two following sections specified. In tenement houses hereafter erected which either are occupied or are arranged to be occupied by more than two families on any floor, or which exceed four stories and cellar in height, the stair halls shall be constructed of fireproof material throughout. The risers, strings and banisters shall be of metal or stone. The treads shall be of metal, slate or stone, or of hard wood not less than two inches thick. Wooden hand rails to stairs shall be permitted if constructed of hard wood. The floors of all such stair halls shall be constructed of iron or steel beams and fireproof filling and no wooden flooring or sleepers shall be permitted. In tenement houses hereafter erected which do not exceed four stories and cellar in height and which also are not occupied or arranged to be occupied by more than two families on any floor, the stair halls shall either be constructed of iron beams and fireproof filling, or shall be filled in between the floor beams with at least five inches of cement deafening. In such houses the stairs shall be of iron or stone, or may be of wood, provided the soffits are

covered with metal lath and plastered with two coats of mortar, or with good quality plaster-boards not less than one-half inch in thickness, made of plaster and strong fiber and all joints made true and well-pointed.

Section 40. Combustible materials.—No tenement house, nor any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping or handling of any combustible article except under such conditions as may be prescribed by the fire department, under authority of a written permit issued by said department. No tenement house, nor any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping or handling of any article dangerous or detrimental to life or health, nor for the storage, keeping or handling of feed, hay, straw, excelsior, cotton paper stock, feathers or rags.

Section 58. Outer courts.—Where one side of an outer court is situated on the lot line, the width of the said court, measured from the lot line to the opposite wall of the building, for tenement houses sixty feet in height shall not be less than six feet in any part; and for every twelve feet increase or fraction thereof in height of the said building, such width shall be increased six inches throughout the entire height of said court; and for every twelve feet of decrease in the height of the said building below sixty feet, such width may be decreased six inches. Wherever an outer court exceeds sixty-five feet in length and does not extend from the street to the yard, the entire court shall be increased in width one foot for every additional thirty tenement houses hereafter erected not exceeding four stories and feet or fraction thereof in excess of sixty-five feet. Except that in cellar in height and which also are not occupied or arranged to be occupied by more than eight families in all, or by more than two families on any floor, and in which also each apartment extends from the street to the yard, the width of an outer court situated on the lot line shall not be less than four feet in any part provided that the length of such outer court does not exceed thirty-six feet.

Section 65. Rear tenements.—No separate tenement house shall hereafter be erected upon the rear of a lot fifty feet or less in width where there is a tenement house on the front of the said lot, nor upon the front of any such lot upon the rear of which there is such a tenement house.

Section 67. Rooms, lighting and ventilation of.—In every tenement house hereafter erected every room, except water-closet compartments and bathrooms, shall have at least one window opening directly upon the street or upon a yard or court of the dimensions

specified in sections fifty-three to sixty-five of this act, and such window shall be so located as to properly light all portions of such rooms. Wherever a room in such tenement house opens upon an inner court less than ten feet wide, measured from the lot line to the opposite wall of the building, such room shall be provided with a sash window, communicating with another room in the same apartment, such window to contain not less than ten square feet of glazed surface, and to be made so as to readily open. No tenement house shall be so altered that any room or public hall or stairs shall have its light or ventilation diminished in any way not approved by the department charged with the enforcement of this act.*

Section 68. Windows in rooms.—In every tenement house hereafter erected the total window area in each room, except water-closet compartments and bathrooms, shall be at least one-tenth of the superficial area of the room, and the top of one window shall not be less than seven feet six inches above the floor, and the upper half of it shall be made so as to open the full width. No such window shall be less than twelve square feet in area between the stop beads.

Section 70. Rooms, size of.—In every tenement house hereafter erected all rooms, except water-closet compartments and bathrooms, shall be of the following minimum sizes: In each apartment there shall be at least one room containing not less than one hundred and twenty square feet of floor area, and each other room shall contain at least seventy square feet of floor area. Each room shall be in every part not less than nine feet high from the finished floor to the finished ceiling; provided that an attic room need be nine feet in but one-half its area.

Section 72. Public halls.—In every tenement house hereafter erected, which is occupied or arranged to be occupied by more than two families on any floor or which exceeds four stories and cellar in height, every public hall shall have at least one window opening directly upon the street or upon a yard or court. Either such window shall be at the end of said hall, with the plane of the window at right angles to the axis of said hall or there shall be at least one window opening directly upon the street or upon a yard or court in every twenty feet in length or fraction thereof in said hall; but this provision for one window in every twenty feet of hallway shall not apply to that portion of the entrance hall between the entrance and the first flight of stairs, provided that the entrance door contains not less than five square feet of glazed surface. In every public hall in such tene-

*(Tenement House Department.)

ment house recesses or returns the length of which does not exceed twice their width will be permitted without an additional window. But wherever the length of such recess or return exceeds twice its width the above provisions in reference to one window in every twenty feet of hallway shall be applied. Any part of a hall which is shut off from any other part of said hall by a door or doors shall be deemed a separate hall within the meaning of this section. In every tenement house hereafter erected where the public hall is not provided with a window opening directly to the outer air as above provided, there shall be a stairwell not less than twelve inches wide extending from the entrance floor to the roof, and all doors leading from such public halls shall be provided with translucent glass panels of an area of not less than five square feet for each door, and also with fixed transoms of translucent glass over each door.

Section 73. Windows and skylights for public halls, size of.—In every tenement house hereafter erected one at least of the windows provided to light each public hall or part thereof shall be at least two feet six inches wide and five feet high, measurer between stop beads. In every such house there shall be in the roof, directly over each stair-well, a ventilating skylight provided with ridge ventilators having a minimum opening of forty square inches, or such skylight shall be provided with fixed or movable louvres; the glazed roof of such skylight shall be not less than twenty square feet in area. In tenement houses hereafter erected where the stairs and public halls are not provided with windows on each floor opening directly to the outer air, the skylights shall be provided with both such ridge ventilators, and also with fixed or movable louvres or movable sashes.

Section 82. Public halls. In every tenement house a proper light shall be kept burning by the owner in the public hallways, near the stairs, upon the entrance floor, and upon the second floor, above the entrance floor of said house, every night from sunset to sunrise throughout the year, and upon all other floors of the said house from sunset until ten o'clock in the evening.

Section 91. Basements and cellars. In tenement houses hereafter erected no room in the cellar or in the basement shall be constructed, altered, converted or occupied for living purposes, unless all of the following conditions are complied with:

1. Such room shall be at least nine feet high in every part from the floor to the ceiling. Provided, that in buildings already erected and not now used as tenement houses but hereafter altered or converted to such use, such room shall be not less than seven feet high in every part.

2. The ceiling of such room shall be at least four feet and six inches above the surface of the street or ground outside of or adjoining the same.

3. There shall be appurtenant to such room the use of a separate water-closet, constructed and arranged as required by section ninety-five of this act.

4. Such room shall have a window or windows opening upon the street, or upon a yard or court. The total area of windows in such room shall be at least one-eighth of the superficial area of the room, and one-half of the sash shall be made to open the full width, and the top of each window shall be within six inches of the ceiling.

5. All walls surrounding such room shall be damp-proof.

6. The floor of such room shall be damp-proof and water-proof.

Section 94. Water supply. In every tenement house hereafter erected there shall be in each apartment a proper sink with running water.

Section 95. Water-closet accommodations. In every tenement house hereafter erected shall be a separate water-closet in a separate compartment within each apartment, provided that where there are apartments consisting of but one or two rooms, there shall be at least one water-closet for every three rooms. Every water-closet and bath hereafter placed in any tenement house shall be placed in a compartment completely separated from every other water-closet and bath; such compartment shall be not less than two feet and four inches wide, and shall be enclosed with plastered partitions, which shall extend to the ceiling. In tenement houses erected after April tenth, nineteen hundred and one, such compartments shall have a window opening directly upon the street or yard, or upon a court or vent shaft. In tenement houses erected prior to April tenth, nineteen hundred and one, such compartments shall have a window opening directly upon the street or upon a yard, not less than four feet deep, or upon a court or shaft of not less than twenty-five square feet in area, open to the sky without roof or skylight. Every such window shall be at least one foot by three feet between stop beads, and the entire window shall be made so as to readily open. When, however, such water-closet compartment is located on the top floor and is lighted and ventilated by a skylight over it, or is located at the bottom of a shaft or court of lawful size, and is lighted and ventilated by a skylight over it at the bottom of such shaft or court, no window shall be necessary, provided the roof of such skylight contains at least three square feet of glazed surface and is arranged so as to readily open. Nothing in this section in regard to the separation of water-closet compartments from each other shall apply to a

general toilet room containing several water-closets hereafter placed in a tenement house, provided such water-closets are supplemental to the water-closet accommodations required by law for the use of the tenants of the said house. Nothing in this section in regard to the ventilation of water-closet compartments shall apply to a water-closet hereafter placed in a tenement-house, where it is provided to replace a defective fixture in the same position and location. No water-closet shall be maintained in the cellar of any tenement house without a special permit in writing from the department charged with the enforcement of this act,* which shall have power to make rules and regulations governing the maintenance of such closets. Every water-closet compartment hereafter placed in any tenement house shall be provided with proper means of lighting the same at night. If fixtures for gas or electricity are not provided in said compartment, then the door of said compartment shall be provided with translucent glass panels, or with a translucent glass transom, not less in area than four square feet. The floor of every such water-closet compartment shall be made water-proof with asphalt, tile, stone, or some other water-proof material; and such water-proofing shall extend at least six inches above the floor so that the said floor can be washed or flushed out without leaking. No drip trays shall be permitted. No water-closet fixtures shall be enclosed with any wood-work.

Section 97. Basements and cellars. Hereafter in any tenement house no room in the basement or cellar shall be occupied for living purposes without a written permit from the department charged with the enforcement of this act,* and such permit shall be kept readily accessible in the main living room of the apartment containing such room. And no such room in a tenement house erected prior to April tenth, nineteen hundred and one, shall hereafter be occupied unless all the following conditions are complied with. The said written permit shall be issued when all of the said conditions are complied with. If refused, the reason for such refusal shall be stated by said department, in writing, and a copy thereof shall be kept in a proper book in the office of said department, and be accessible to the public.

1. Such room shall be at least seven feet high in every part from the floor to the ceiling.

2. The ceiling of such room shall be in every part at least two feet above the surface of the street or ground outside of or adjoining the same.

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3. There shall be appurtenant to such room the use of a water-closet.

4. There shall be outside of and adjoining such room, and extending along the entire frontage of at least one of the rooms of the apartment, an open space of at least two feet six inches wide in every part, unless such room extends for more than one-half of its height above the curb level. Such space shall be well and effectually drained.

5. Such room shall have a window or windows opening to the outer air of at least nine square feet in size clear of the sash frame, and which shall have been made to readily open for purposes of ventilation.

6. If the house is situated over marshy ground, or ground on which water lies, or ground on which there is water pressure from below, the lowest floor shall have been made water-proof and damp-proof.

7. Such room shall have sufficient light, shall be well drained and dry, and shall be fit for human habitation.

Section 105. Cleanliness of buildings. Every tenement house and every part thereof shall be kept clean and free from any accumulation of dirt, filth or garbage or other matter in or on the same, or in the yards, courts, passages, areas or alleys connected with or belonging to the same. The owner of every tenement house or part thereof shall thoroughly cleanse all the rooms, passages, stairs, floors, windows, doors, walls, ceilings, privies, water-closets, cesspools, drains, halls, cellars, roofs and all other parts of the said tenement house, or part of the house of which he is the owner, to the satisfaction of the tenement house department,* and shall keep the said parts of the said tenement house in a cleanly condition at all times.

Section 108. Wall paper. No wall paper shall be placed upon a wall or ceiling of any tenement house unless all wall paper shall be first removed therefrom and said wall and ceiling thoroughly cleaned.

Section 109. Receptacles for ashes, garbage and refuse. The owner of every tenement house shall provide for said building proper and suitable conveniences or receptacles for ashes, rubbish, garbage, refuse and other matter.

Section 111. Janitor or housekeeper. Whenever there shall be more than eight families living in any tenement house, in which the owner thereof does not reside, there shall be a janitor, housekeeper or some other responsible person who shall reside in said house and

*("Department of health" in original act. Changed by Greater New York Charter to "tenement house department.")

have charge of the same, if the department charged with the enforcement of this act* shall so require.

Section 112. **Overcrowding.** No room in any tenement house shall be so overcrowded that there shall be afforded less than four hundred cubic feet of air to each adult, and two hundred cubic feet of air to each child under twelve years of age occupying such room.

II. FIRE-ESCAPE LAW OF PENNSYLVANIA.

Act of Assembly, approved July 12, 1897.

Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in general assembly met, and it is hereby enacted by the authority of the same, that all the following described buildings within this commonwealth, to-wit: . . . Every tenement house or other building in which rooms or floors are usually let to lodgers or families, shall be provided with a permanent, safe, external means of escape therefrom, in case of fire, independent of all internal stairways; the number and location of such escapes to be governed by the size of the building and the number of its inmates, and arranged in such a way as to make them readily accessible, safe and adequate for the escape of said inmates. Such escape to consist of outside, open, iron stairways, of not more than 45 degrees slant, with steps not less than 6 inches in width and 24 inches in length. And all of said buildings capable of accommodating from one hundred to five hundred or more persons, shall be provided with two such stairways, and more than two such stairways if such be necessary to secure the speedy and safe escape of said inmates, in case the internal stairways are cut off by fire or smoke. And it shall be the duty of the owner or owners in fee, for life, of every such building, and of the trustee or trustees of every estate, . . . to provide or cause or cause to be securely affixed outside of every such building, such permanent, external, un-enclosed fire escape; provided that nothing herein contained shall prohibit any person whose duty it is under this act to erect fire escapes, from selecting and erecting any other and different device design or instrument being a permanent, safe, external means of escape, subject to the inspection and approval of the constituted authorities for that purpose.

*(Tenement House Department.)

Section 2. It shall be the duty of the Board of Fire Commissioners, in conjunction with the Fire Marshal of the district where such commissioners and fire marshal are elected or appointed, to first examine and test such fire-escape or escapes, and after, upon trial, said fire-escape or escapes should prove to be in accordance with Section 1 of this act then the said fire marshal, in connection with the fire commissioners, or a majority of them, shall grant a certificate approving said fire-escape, thereby relieving the party or parties to whom such certificate is issued from the liabilities of fines, damages and imprisonment imposed by this act.

Section 3. That every person, corporation, trustee, etc., neglecting or refusing to comply with the requirements of Section 1 of this act, in erecting said fire-escape or escapes, shall be liable to a fine not exceeding \$300; and also be deemed guilty of a misdemeanor, punishable by imprisonment not less than one month or more than two months. And, in case of fire occurring in any of said buildings in the absence of such fire-escape or escapes, approved by certificate of said officials, the said persons or corporations shall be liable in an action for damages in case of death or personal injuries sustained in consequence of such fire breaking out in said building; and shall also be deemed guilty of a misdemeanor, punishable by imprisonment for not less than six months nor more than twelve months; and such action for damages may be maintained by any person now authorized by law to sue as in other cases of similar injuries; provided, that nothing in this act shall interfere with fire-escapes now in use, approved by the proper authorities.

Fire-escapes—Details of Construction.

Philadelphia.—(In accordance with the Act of Assembly, approved June 3, 1885, and the ordinance of councils, approved December 10, 1896, and supplemental thereto, the following formula will govern the matter of design, construction, and erection of all fire-escapes hereafter required within the City of Philadelphia.)

Platforms.—The platform shall consist of iron balconies not less than four feet in width, the length of the platform to be dependent upon the size of the building and the number of its occupants. The inspector of the district will designate the length of such platform, which shall extend in front of, and not less than nine inches beyond, at least two windows, except in the case of a doorway leading from the floor level of the building to the floor level of the platform, in which case such doorway opening will suffice. Each platform shall be provided with a landing at the head and foot of each stairway of not less than twenty-four inches. The stairway opening of the top

to be no longer than sufficient to provide clear headway. The floors balconies must be of wrought iron, or steel, one and one-half ($1\frac{1}{2}$) inches by five-sixteenths ($\frac{5}{16}$) inch slats, not more than one and one-fourth ($1\frac{1}{4}$) inches apart, and be securely riveted to frame and brackets. The outside angle frame to be not less than two and one-fourth ($2\frac{1}{4}$) inch angle iron. If flooring is made of wire, same to be not less than Number 6 wire gauge, three-fourths ($\frac{3}{4}$) inch mesh, securely fastened to frame and brackets. All stair openings to be sufficient to provide clear headway. In all cases platforms must be designed, constructed and erected to safely sustain in all their parts a safe load at the ratio of four to one, of not less than eighty pounds per square foot of surface.

Railings.—The outside top railing to extend around the entire length of the platform, and through the wall at each end, and to be properly secured by nuts and washers, or otherwise equally well braced and bolted. The top rail of the balcony must not be less than one (1) inch pipe iron, or material equally as strong. The bottom rail must not be less than three-fourths ($\frac{3}{4}$) inch pipe iron or material equally as strong, leaded into the wall. The standards must be not less than one (1) inch pipe iron, or material equally as strong, and must be securely connected with the top and bottom rail and platform frame. The standards must also be securely braced by means of outside brackets at suitable intervals. Railings in all cases to extend around the stairway openings and be continuous down the stairway. The height of the railing to be not less than three (3) feet.

Stairways.—Stairways must be designed, constructed and erected to safely sustain in all their parts a safe load at a ratio of four to one, of not less than one hundred (100) pounds per step, with the exception of the tread, which must safely sustain, at a ratio of four to one, a load of two hundred (200) pounds per tread. The treads to be not less than six (6) inches wide and the rise not more than ten (10) inches. The stairs in all cases to be not less than twenty-four (24) inches wide, and the strings or horses to be not less than three (3) inch channels of iron or steel, or other shape equally as strong and to rest upon and be fastened to a bracket; said bracket to be fastened through the wall as otherwise provided for brackets. The strings or horses to be also securely fastened to the balcony at the top. The steps in all cases to be double riveted or bolted to the strings or horses.

Brackets.—Brackets must not be less than two and one-fourth ($2\frac{1}{4}$) inch angle iron, or material equally as strong not more than three (3) feet apart, braced by means of not less than one (1) inch square or one and one-fourth ($1\frac{1}{4}$) inch round iron let into the wall at least

four (4) inches, with shoulders on brace, and three (3) inch washer between shoulder and wall, and to extend down the wall four (4) feet from the top of the bracket and out on the bracket angle three (3) feet from the wall. In all cases the bracket angle directly under the balcony must be secured to the wall by means of bolts of suitable size passing through the wall, and four (4) inch washers. There must also be a bar of wrought iron or steel two (2) inches by three-eighths (3/8) inch, let into the wall four (4) inches edgewise, between the brackets, and riveted to the balcony for the floor to rest upon. Whenever the bottom balcony is supported by means of suspension rods (riveted or bolted) to the balcony above, the brackets (of the above balcony) shall be increased in size to meet the increased strain occasioned thereby. The bottom balcony to have a drop ladder of same construction as the stairway, to be hinged and hung with a counter weight. Whenever the drop ladder is upheld by means of a counter balance weight suspended to a chain, such weight shall hang within the platform railing if practicable. In all cases the bolts, rivets and other material used shall be proportioned so as to develop the full strength of the members connected by them. All the parts of such fire-escape must receive not less than two coats of paint,—one coat in the shop and one after erection.

III. OVER-CROWDING.

Washington.—(Regulations concerning the use and occupancy of buildings and grounds, promulgated by the Commissioners of the District of Columbia, April 22, 1897.)

Section 4. No room in any tenement or lodging house shall be occupied as a sleeping room, unless there are at least 400 feet cubic contents for each person therein not less than ten years of age. The Health Officer is hereby authorized, if in his judgment it is necessary to secure compliance with this requirement, to cause to be affixed to or near the door of each such room a placard stating the number of occupants, allowed under this regulation, and shall, in any case, where such placard has been affixed, cause a notice stating such number to be served on the owner, agent or person having charge of the premises. No person having authority to prevent shall permit to occupy any such room as a sleeping room any greater number of persons than are specified on such placard, if any, or otherwise authorized under this section.

IV. CONDEMNATION OF BUILDINGS UNFIT FOR HABITATION.

Boston.—(Chap. 219, Act of 1897, Commonwealth of Massachusetts. An Act for the further protection of the public health in the City of Boston.)

Section 1. Whenever, in the opinion of the Board of Health, any building or part thereof in said city is, because of age, infection with contagious disease, defects in drainage, plumbing or ventilation, or because of the existence of a nuisance on the premises which is likely to cause sickness among its occupants, or among the occupants of other property in said city, or because it makes other buildings in said vicinity unfit for human habitation or dangerous or injurious to health, or because it prevents proper measures from being carried into effect for remedying any nuisance injurious to health, or other sanitary evils in respect of such other buildings, so unfit for human habitation that the evils in or caused by such building cannot be remedied by repairs or in any other way except by the destruction of said building or of any portion of the same; said board of health may order the same or any part thereof to be removed; and if said building is not removed in accordance with said order said board of health shall remove the same at the expense of the city.

V. LODGING HOUSE REGULATIONS.

Public Health Laws of Illinois, relating to lodging houses, boarding houses, taverns, inns and hotels.

Section 16. It shall be unlawful for any landlord, proprietor, keeper, manager or clerk of any lodging house, boarding house, tavern, inn or hotel to permit any room in such lodging house, boarding house, tavern, inn or hotel, to be used or occupied for sleeping purposes which does not contain four hundred (400) cubic feet or more of air space for each person sleeping therein at the same time; and in every room in any lodging house, boarding house, tavern, inn or hotel, containing more than one bed, the beds shall be so arranged as to leave a passage way of not less than two feet horizontally on all sides of each bed; and all beds shall be so arranged that under each of them the air shall circulate freely, and there be adequate ventilation. Any landlord, proprietor, keeper, manager, clerk, employe or other person connected with any lodging house, boarding house, tavern, inn or hotel, violating any of the provisions of this section, shall be guilty of a misdemeanor, and upon conviction shall be punished by a fine not exceeding \$100 nor less than \$25.

Section 18. Within thirty days from the date upon which this act shall take effect, and upon the first day of March of each succeeding year, the landlord, proprietor, keeper or manager of every such lodging house, boarding house, tavern, inn or hotel, shall file with the county clerk of the county in which such lodging house, boarding house, tavern, inn or hotel is located, a written statement, sworn to by him; which statement shall contain the name of the person making the statement; whether the person is the landlord, proprietor, keeper or manager of such lodging house, boarding house, tavern, inn or hotel; the location of such lodging house, boarding house, tavern, inn or hotel according to the city, street and number; the period of time during which such person has been the landlord, proprietor, keeper or manager of such lodging house, boarding house, tavern, inn or hotel; the period of time during which such lodging house, boarding house, tavern, inn or hotel has been continuously operated as such; the number of guests or persons then stopping in said lodging house, boarding house, tavern, inn or hotel; the greatest number of persons who stopped in said boarding house, lodging house, tavern, inn or hotel, upon any day within the thirty days immediately preceding the date of such sworn statement; the smallest number of persons upon any day within said period of thirty days; the total number of rooms contained in such lodging house, boarding house, tavern, inn, or hotel; the number of sleeping rooms contained in such lodging house, boarding house, tavern, inn or hotel; the length and breadth of the building; the number of stories comprised in such building; the number of stories or parts of stories occupied by such lodging house, boarding house, tavern, inn or hotel; the complete dimensions, in feet, respectively, of the smallest and largest sleeping rooms contained therein, and the number of beds contained in said largest sleeping rooms. Such statement shall be made upon blanks furnished to the county clerk by the State Board of Health for that purpose.

VI. CHICAGO TENEMENT REGULATIONS. BUILDING CODE.

Section 641. **Rooms.** No room in any now existing tenement house shall hereafter be constructed, altered, converted or occupied for living purposes unless it contains a window having a superficial area not less than one-twelfth the floor area of the room, which window shall open upon a street or alley or upon a yard or court having a superficial area of not less than twenty-five square feet; or unless such room adjoins another room in the same apartment,

which other room shall have such a window opening upon such a street, alley, yard or court, and between which two adjoining rooms there shall be a sash window having at least fifteen square feet of glazed surface, the upper half of which shall be so made as to open easily.

Section 642. **Windows, courts, attic.** No room in any now existing tenement house which has no such window, as aforesaid, opening upon a street or alley or upon a yard or court having a superficial area of not less than twenty-five square feet, shall hereafter be constructed, altered, converted or occupied for living purposes, unless it contains a floor area of at least sixty square feet and also at least six hundred cubic feet of air space; nor unless every part of the finished ceiling of such room be at least eight feet distant from every part of the finished floor thereof; provided, that an attic room need be eight feet high in but one-half of its area and such attic room shall not be used for purposes of human habitation other than as a sleeping room.

Section 653. **Cellar changed for living purposes.** In no now existing or new tenement house shall any room in the cellar be constructed, altered, converted or occupied for living purposes; and no room in the basement of a tenement house shall be constructed, altered, converted or occupied for living purposes, unless all of the following conditions of this ordinance be complied with, and at least one-third of the height of the basement shall be above grade for building; provided, in each case it shall be at least four feet above the street grade.

Section 654. **Cellar rooms, height.** Such rooms shall be at least 8 feet, 6 inches high in all now existing or new tenement houses in every part, from floor to the ceiling, except, as provided for janitor's use only in section 640 of this ordinance.

Section 665. **Water closet.** There shall be appurtenant to such room or apartment a water closet conforming to the regulations and ordinances of the city relating to water closets.

VII. FIRE ESCAPE LAW OF WISCONSIN.

Chapter 349, Laws of Wisconsin, 1901.

Providing for fire escapes on buildings. Section 1. Every inn, hotel, boarding house, store-house, tenement house, every building now or hereafter used, in whole or in part, as a public building, pub-

lic or private institution, office or store building, school house, theatre, public hall, place of assemblage, or place of public resort more than two stories high and containing above the ground floor, sleeping apartments, offices, and assembly hall, work rooms or a room intended to be used as a place of amusement, all or any of which rooms are designed for occupancy by twenty-five or more persons shall be provided with one or more fire proof stairways or ladders on the outside thereof, placed in such position and as many in number as may be designated by the chief of the fire department or fire marshal of the village or city in which the building is located, or by the state factory inspector. If more than one stairway or ladder is required, each side of such inn, hotel, boarding house, store-house, tenement building, every building now or hereafter used in whole or in part as a public building, public or private institution, office or store building, school house, theatre, public hall, place of assemblage or place of public resort shall be provided therewith. Such stairways or ladders shall connect the cornice with the top of the first story of any such building by a wrought iron platform, balcony, piazza or other safe and convenient resting place on a level with the floor of each story so connected, and of sufficient length to permit access to the same from not less than two windows of each story; they shall be convenient of access from the interior of the building, commodious in size and form and of sufficient strength to be safe for the purpose of ascent and descent. In cities and villages where there is a water supply for fire purposes, there shall be attached to such stairs or ladders a three-inch wrought iron stand pipe extending from a point within five feet of the ground to a point three feet above the roof or cornice at each story above the first and on the roof there shall be attached a two and one-half inch angle hose valve with male hose connection, and a double or Siamese "Y" female hose connection at the base of the pipe, with threads to conform to the size and pattern used by the fire department where the building is located.

Elevator walls. Section 2. The inside walls or casings of every elevator used for the conveyance of passengers to and from the upper stories of any such building as is within the preceding section, shall be constructed of fire proof material throughout.

Watchman; red light. Section 3. In all such buildings as are described in section 1, which contain one hundred rooms or more, not less than one efficient watchman shall be on duty from 10 o'clock p. m. until 5 o'clock a. m. during each and every night that any such building is occupied. There shall be posted in every room in every building designated in said section, in legible print a brief and accurate statement of all means of safety and escape therefrom in case

of fire, and a red light shall be kept burning all night at the head of each stairway above the first floor, also on each floor above the first, at or near the exit to such fireproof stairway or ladder.

VIII. BUILDING REGULATIONS, CITY OF MILWAUKEE.

Light shafts. Section 66. No space or light shaft of less area than forty square feet for each three-story building, or less than fifty square feet for a four-story building, and so on increasing ten square feet sectional area for each additional story in height, shall be considered as affording means of communication with the outer air, and such open space or light shafts, if covered with a skylight or roof of any kind, shall not be considered as fulfilling the terms of the ordinance.

All skylights of first, second, third, fourth and fifth class buildings, made at the foot of light wells or light courts, shall be made either of prismatic lights set in cast iron frames, or of glass at least five-eighths inches thick set in metallic frames; and if latter are used, they shall be protected by wire netting placed at least six inches above the glass of such skylights, or of wired glass set in metallic frames and metallic sash.

Basement dwellings. Section 77. The height of any basement used for dwelling purposes, or for sleeping apartments to be not less than eight feet, and the height of ceiling of same above grade to be not less than four feet. Such basement to be properly drained and ventilated, and each apartment to have window or windows (leading to outside), with not less than nine square feet of glass for every one hundred square feet of floor area.

Window area. No room in any dwelling, lodging or tenement house hereafter built, nor in any building hereafter altered to be used as such, shall be considered habitable or used as a habitation unless it is at least eight feet in height in the clear, except that in the attic it may average eight feet high. Every such room shall have one or more windows of an area at least 10 per cent. as great as that of the room, opening into the external air or into a room having one or more windows, opening into the external air, with an area of at least 20 per cent. as great as that of said room. The top of at least one window in such room or rooms shall be at least seven feet from the floor, and the upper sash shall be movable.

In all buildings of the first, second, third, fourth and fifth classes, the windows above the second story shall be so constructed as to permit the cleaning of them from the interior, or suitable adjustable

rope or leather strap harness to be attached to staples or screw-eyes securely fastened to window casing; provided, however, the provisions of this section shall not apply to buildings used exclusively for manufacturing purposes, elevators or malt houses.

Lodging and tenement houses. Section 78. In all lodging and tenement houses the dividing wall or partition between the apartments provided for each family shall be made entirely of incombustible material, or of stud partitions filled the full thickness and height with mineral wool, brick or other incombustible material, and plastered on metal lath. In the absence of definite subdivisions between the apartments of different families, eight rooms shall be counted as the equivalent of one apartment.

Fire stop. In lodging or tenement houses there shall be a vertical fire stop, at least four inches thick, of brick, concrete, tile, mineral wool or other incombustible material between the joists filling the space from ceiling to floor, for each twenty-five feet or fractional part thereof measured in the direction of the length of joists.

4X. A PROPOSED ORDINANCE SENT TO THE COMMON COUNCIL OF MILWAUKEE AUGUST 25, 1902.

An Ordinance to regulate the erection of Tenement Houses with due regard to sanitation in their construction.

Section 1. No house hereafter erected shall be used as a tenement or lodging house and no house heretofore erected and not now used for such purposes shall be converted into, used, or leased for a tenement or lodging house unless it conforms to the requirements contained in the following sections.

Section 2. It shall not be lawful hereafter to erect for or convert to the purpose of a tenement or lodging house a building on the front of any lot where there is another building on the rear of the same lot, unless there is a clear open space exclusively belonging thereto and extending upward from the ground of at least ten feet between said buildings if they are one story high above the level of the ground, and if they are two stories high the distance shall be not less than fifteen feet; if they are three stories high the distance between them shall be twenty feet; if they are more than three stories high the distance shall be twenty-five feet. At the rear of any building hereafter erected for or converted to the purpose of a tenement or lodging house on the back part of any lot there shall be a clear open space of ten feet between it and any other building. But when thorough ventilation of such open spaces can be otherwise secured, said

distances may be lessened or modified in special cases by permits from the Board of Health.

Section 3. Every house building or portion thereof in the City of Milwaukee designed to be used, occupied, leased or rented, or which is used, occupied, leased or rented for a tenement or lodging house shall have in every room which does not communicate directly with the external air a ventilating or transom window having an opening or area of three square feet over the door leading into and connected with the adjoining room if such adjoining room communicates with the external air and also a ventilating or transom window of the same opening or area communicating with the entry or hall of the house, or where this is from the relative situation of the rooms impracticable such last mentioned ventilating or transom window shall communicate with the adjoining room that itself communicates with the entry or hall. Every such house or building shall have in the roof at the top of the hall an adequate and proper ventilator of a form approved by the Commissioner of Health.

Section 4. In every such house hereafter erected or converted, every habitable room, except rooms in the attics, shall be in every part not less than eight feet in height from the floor to the ceiling, and every habitable room in the attic of any such building shall be not less than eight feet in height from the floor to the ceiling throughout not less than one-half the area of such room. Every such room shall have at least one window connecting with the external air, or over the door a ventilator of perfect construction connecting it with a room or hall which has a connection with the external air, and so arranged as to produce a cross current of air. The total area of window or windows in every room communicating with the external air shall be at least one-tenth of the superficial area of every such room; and the top of one at least of such windows shall not be less than seven feet and six inches above the floor, and the upper half at least shall be made so as to open the full width. Every habitable room of a less area than one hundred superficial feet, if it does not communicate directly with the external air, and is without an open fire-place shall be provided with special means of ventilation by a separate air shaft extending to the roof or otherwise as the Commissioner of Health may prescribe.

Section 5. Every such house hereafter erected or converted shall have adequate chimneys running through every floor with an open fire-place or grate or place for stove properly connected with one of the chimneys, for every family and set of apartments; it shall have proper conveniences and receptacles for ashes and rubbish; it shall have water furnished at one or more places in such house or in the yard thereof, so that the same may be adequate and reasonably convenient for the use of the occupants; it shall have the floor of the cel-

lar properly cemented so as to be water tight; the halls of each floor shall open directly to the external air, with suitable windows, and shall have no room or other obstruction at the end unless sufficient light and ventilation is otherwise provided for said hall in a manner approved by the Commissioner of Buildings.

Section 6. No owner, agent, lessee, or keeper of any tenement house or lodging house or boarding house shall cause or allow same to be over-crowded or cause or allow so great a number of persons to dwell, be or sleep in any such house or any such portion thereof as thereby to cause any danger or detriment to health. No room in any tenement or lodging house shall be so crowded that there shall be less than 400 cubic feet of air to each adult and 200 cubic feet of air to each child under twelve years of age occupying the said room.

Section 7. Every person who shall be the owner, lessee, keeper, manager or agent of any tenement house, lodging house, boarding house, store or manufactory shall provide or cause to be provided for the accommodation thereof and for the use of tenants, lodgers, boarders and workers therein adequate privies or water-closets, and same shall be so adequately ventilated and shall at all times be kept in such a cleanly and wholesome condition as not to be offensive or dangerous or detrimental to health. And no offensive smell or gases from or through any outlet or sewer or from any such privy or water-closet shall be allowed by any person aforesaid to pass into any such house or part thereof or into any other house or building.

Section 8. No person having the right or power to prevent the same shall knowingly cause or permit any person to sleep or remain in the cellar or in any place dangerous or prejudicial to health by reason of the want of ventilation or drainage or by reason of the presence of any poisonous, noxious, or offensive substance or otherwise.

Section 9. Every tenement or lodging house shall have the proper or suitable conveniences or receptacles for receiving garbage and other refuse matter. No tenement or lodging house nor any portion thereof shall be used as a place for any combustible article or any article dangerous or detrimental to health; nor shall any horse, cow, calf, swine, poultry, sheep or goat be kept in said house.

Section 10. Every tenement or lodging house and every part thereof shall be kept clean and free from any accumulation of dirt, filth, garbage or any other matter in or on the same or in the yard or court, area, passage or in the alley connected with or belonging to the same. The owner, manager or agent of any tenement house or any part thereof shall thoroughly cleanse all rooms, passages, stairs, floors, windows, doors, walls, ceilings, privies, cess-pools and drains thereof of the house or any part of the house of which he is the owner or lessee or agent, to the satisfaction of the Commissioner of Health so

often as shall be required by or in accordance with any regulation or order of said commissioner, and shall well and sufficiently to the satisfaction of said commissioner, whitewash the walls and ceilings thereof twice at least in every year, and in the months of April and October, unless said commissioner shall direct otherwise.

Section 11. The owner or keeper of any lodging house, and the owner or agent of the owner, and the lessee of any tenement house or part thereof shall whenever any person in such house is sick of fever or of any infectious, pestilential or contagious disease, and such sickness is known to such owner, keeper, agent or lessee, give immediate notice thereof to the Commissioner of Health, and thereupon said officer shall cause the same to be inspected, and take such action as in his judgment he deems necessary for the protection of health.

Section 12. A tenement house within the meaning of this article shall be taken to mean and include every house, building or portion thereof which is rented, leased or hired out to be occupied as the residence or home of more than three families, living independently of one another and doing their own cooking, but having a common right in the halls, stairways, yards, water-closets or privies or some of them.

Section 13. A lodging house shall be taken to include any house or building or portion thereof in which persons are harbored, received or lodged for hire for a single night or less than a week at one time, or any part of which is let for a person to sleep in for any term less than a week.

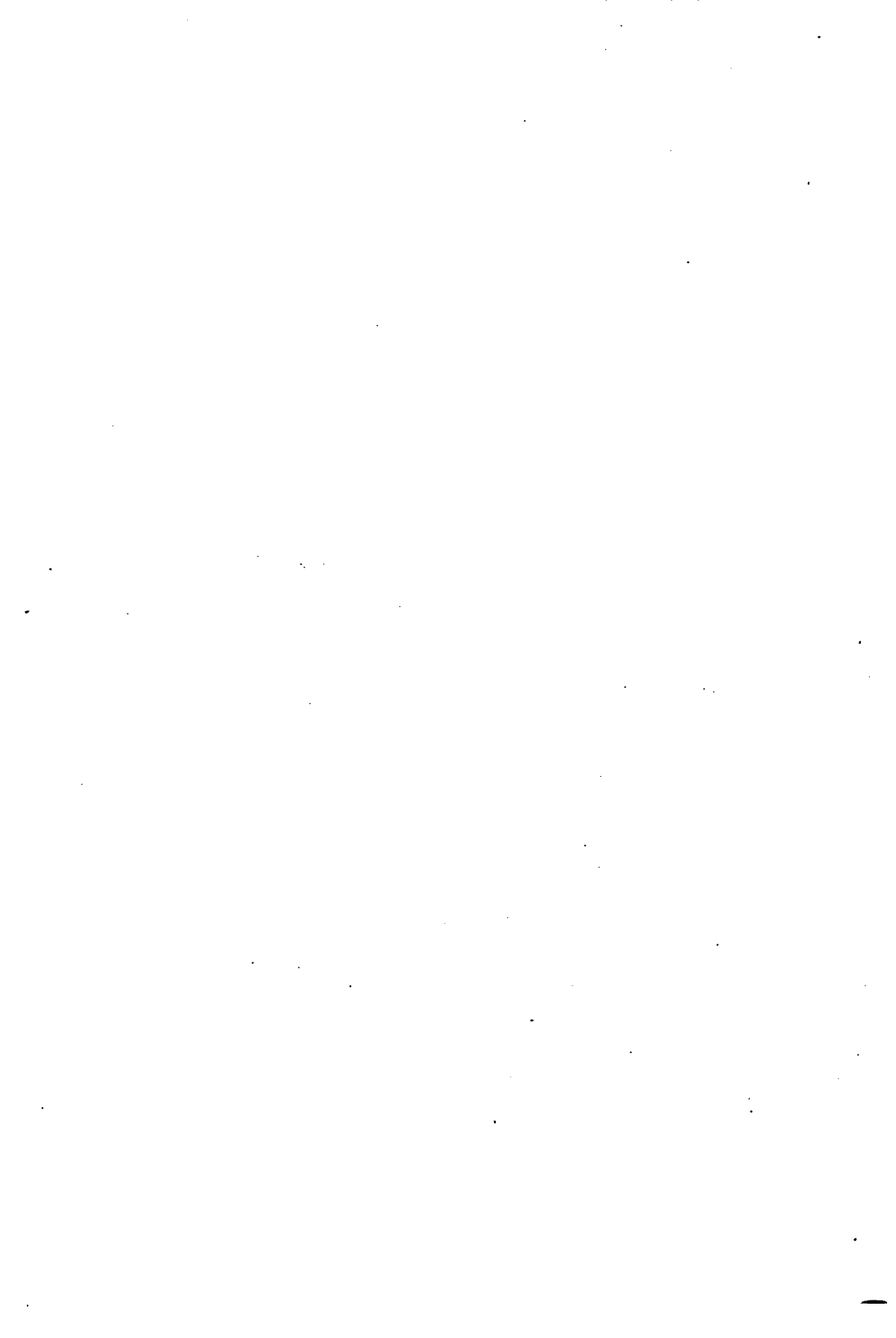
Section 14. A cellar shall be taken to mean and include every basement or lower story of any building or house of which one-half or more of height from the floor to the ceiling is below the level of the floor adjoining.

Section 15. Any person or persons violating, disobeying, neglecting, or refusing to comply with or resisting any of the provisions of this article or who refuse to comply with any sanitary regulations of the department, of health concerning any of the matters or things mentioned in this article shall, upon conviction, be subject to a penalty of not less than \$10.00 and not exceeding \$200.00 or imprisonment in the house of correction not less than fifteen nor more than sixty days.

Section 16. All ordinances or parts of ordinances containing the terms of this ordinance are hereby repealed.

Section 17. This ordinance shall take effect and be in force from and after its passage and publication.

Read a first and second time and referred to the committees on public buildings, and grounds and judiciary.





MISSISSIPPI RIVER SCENE
Showing the village of Genoa, in Vernon County

PART V.

**WISCONSIN'S RESOURCES, INDUSTRIES
AND OPPORTUNITIES.**

PREFACE.

In the preparation of this bulletin, undertaken to call the public attention to that vast empire of wealth in central and northern Wisconsin still untouched and unutilized and to assist the many cities, towns and villages of the state in their desire to induce capital to locate in their neighborhood to develop their opportunities in order that their taxable property and industrial output might be increased and their population enlarged, the Bureau of Labor has been guided solely by the desire to present the facts concerning each locality, whether favorable or unfavorable, in their true light. Wherever possible, official and expert authority has been consulted, and in those instances where it was necessary to resort to local opinion, especial effort was taken to secure expressions which were free from that pardonable prejudice of civic pride or public patriotism.

The material consulted has been both extensive and varied. The statistics of agriculture were obtained from the Tenth, Eleventh and Twelfth United States Census, the Wisconsin State Census for 1905 and the various publications of the United States Department of Agriculture. In the description of the individual counties resort was again had to the publication of the United States Census Bureau, the State Census, Chamberlain's Geology of Wisconsin, the Handbook of Northern Wisconsin and the bulletins of the Wisconsin Geological Survey. The range of prices for the different kinds of land in each county were obtained by correspondence with the registers of deeds and are based upon the actual prices paid for land as shown by the public records of transfer. That part dealing with the geology of the state was prepared from the reports of the national and state Geological Surveys and supplemented by the results of personal observa-

tions while engaged in the work of geological surveys. The chapter dealing with the cities, towns and villages was prepared from printed schedules which had been sent to officers of business men's associations, postmasters, bankers and professional men of each of the localities, while in not a few instances personal examinations were made. The material dealing with the mines and quarries of the state was obtained from the Twelfth United States Census and the publications of the State Geological Survey together with statements from railway traffic officials regarding developments along their lines. In the preparation of the chapter on Water Powers of Wisconsin, liberal use was made of the Tenth United States Census, Chamberlain's *Geology of Wisconsin* and especially the *Bulletin on Water Powers of Northern Wisconsin* prepared by Prof. L. S. Smith for the United States Geological Survey, to which latter department this Bureau is especially indebted for the many valuable tables presented on this subject. Acknowledgement is also due to the C. & N. W. and W. C. railroads for statistics giving the number of tons of iron, lead and zinc shipped out of the state and for many of the cuts used in this report; also to Prof. G. E. Culver for that part of this report dealing with the geological history of the state.

A considerable interest has been manifested by the public in the material herewith presented and comments as to its probable value have been freely made by the press. It is the earnest hope of the Bureau of Labor that the results of its work will equal the expectation of the public and that the free distribution of this bulletin will attract attention to our undeveloped resources so that capital may seek investment, labor find profitable employment and population be increased to the great enrichment of the commonwealth.

WISCONSIN'S RESOURCES, INDUSTRIES AND OPPORTUNITIES.

CHAPTER I.

FORMATION OF SOILS.

The soils of Wisconsin, with some notable exceptions, are derived from the decay of the underlying rocks. This rock decay is a slow and continuous process, hence the soils at the present time, as at all times, are being added to from below by the decay of the subjacent rocks.

The agents producing decay are frost, moisture, change of temperature, vegetation and various forms of chemical action set up in the rocks by the material carried into them by the water which saturates them. As these agencies are ever present and ever active it is evident that the results of their activity must be continuously if slowly added to the soil.

VARIETY OF SOIL.

As about every variety of rock is found within our state, all possible varieties of soil must be in process of formation at the present time; but as these rocks are variously distributed throughout the state it becomes important to know not only the varieties but also the distribution of these rocks and the resulting soils.

For our purpose the rocks with which we have to deal may be classed as sandstones, limestones, granites, gneisses, schists and various kinds of igneous rocks. As the first four mentioned cover nine-tenths of the state and as granite and gneiss are of the same composition, we may limit our discussion to a consideration of sandstone, limestone and granite.

Sandstone. Manifestly the decay of sandstone must furnish mainly sand, hence the soil of a region underlain by sandstone will be mainly a sandy soil. Sand grains (quartz) do not decay and pure sand is about the poorest soil possible. Sandstone always contains some cementing material, carbonate of lime, iron oxide or silica. These substances are therefore added to the soil when the rock decays.

Most sandstone contains also grains of feldspar, flakes of mica and fragments of other minerals the decay of which somewhat improves the quality of the soil.

By reference to the geological map of Wisconsin it will be seen that sandstone occurs as a surface rock in a broad, somewhat crescent shaped belt crossing the state from east to west. The counties in which it forms the major part of the surface rock are: Burnett, Barron, Dunn, Pepin, Eau Claire, Trempealeau, Jackson, Monroe, Adams, Juneau, Sauk, Marquette, Waushara, southern Wood, Portage, Waupaca and Shawano. The soil of these seventeen counties therefore may be expected to be sandy. As a matter of fact a considerable portion of it is either sand or sandy loam. The area of such soil has however been considerably reduced by glacial action and other agencies as will be noted in the present article. Considerable areas within these counties have had their soil modified by the accumulation of vegetable matter in swamps, marshes and along the courses of streams.

The transfer of clay by wash from the granite area to the north has still further modified portions of the soil of this sandstone belt.

As a result of these modifications all of which tend to improve the quality of the soil, the region is a fairly fertile one, yet it is, for general agricultural purposes, considered the poorest land in the state.

This statement loses its force very largely however when three facts are considered. The first of these facts is that within the area under consideration are found the large cranberry swamps of the state. The value of these swamps per acre is much higher than that of the best agricultural land.

Second, this sandstone belt is the natural home of the white pine.

Vast fortunes have been taken from this district as the proceeds of the lumber derived from this pine; but with true

American disregard for the future, no effort whatever has as yet been made to replant any portion of the deforested area. The time will surely come when conservative investors will put capital into the reproduction of the most valuable crop this land ever produced.

The third fact is that with proper culture the sandy loam of this district produces large crops of potatoes of superior quality. The region is sometimes spoken of as the "potato belt." The potatoes command the highest price in all markets and the acreage planted is constantly increasing.

Limestone. When limestone disintegrates and the resulting particles are disseminated through other material it forms a marly soil. This is however only a temporary stage. The particles of limestone (carbonate of lime) gradually dissolve in the rainwater that falls upon them and is thus carried in solution to the streams and so out of the district in which the rocks lie. It follows that if limestone were pure carbonate of lime there would be little or no accumulation of soil from this source in regions underlaid by this rock. As a matter of fact no limestone is pure. The impurities consist chiefly of clay and iron oxide. The clay sometimes constitutes as much as twenty-five per cent of the rock but is usually much less than that. The iron oxide is always in small quantities but because of its high color is often quite noticeable.

As these impurities are insoluble under ordinary conditions, while the carbonate which constitutes the great mass of the rock is soluble, the clay and iron oxide are left behind and so from the decay of limestone, not a marly but a clayey soil is derived. It is a soil made almost solely from the impurities of the parent rock.

The portion of our state underlaid by this rock includes practically all of the state lying south and east of the sandstone belt already described. Some exceptions are to be noted in the south central and south western portions of the state where some sandy areas are found intermingled with areas of clayey soil. This part of the state was the first to be developed and is at present the richest agricultural portion of the state. These facts are probably largely due to the character of the soil of this portion.

As will be noted farther on in this article, the clays of this district now extend some distance outside the area where they were formed.

Granite and Gneiss. These rocks, sometimes called primary rocks since the limestones and sandstones are derived from them and hence are of secondary origin, occupy the portion of the state lying north of the sandstone belt, with the exception of the northwest corner, where we have a thick series of interbedded igneous and sedimentary rocks.

The composition of granite is more complex than that of the secondary rocks previously considered and the resulting products of decomposition are correspondingly more varied. The constituents of granite (and gneiss) may be considered as consisting mainly of quartz, feldspar and mica with often much hornblende. These are the essential minerals. Others are usually present as accessory minerals but mostly in small amounts.

Of these the quartz does not decay, but as the other minerals do, the quartz grains fall out and in process of time become rounded into sand grains or gravel.

This gives rise to sandstone, or to loose beds of sand and usually to sandy soil. The sandstone belt already described will thus be seen to be in its natural position surrounding the granite area which produced it. Each sand grain in the sandstone was once a constituent crystal of granite or gneiss to the northward.

The feldspar is perhaps the most important substance in the granite. It is a complex mineral and in its decay gives rise to a number of simpler compounds one of which is kaolin, the basis of clay.

Briefly stated clay is the chief product resulting from the decay of feldspar. The other products are lime, soda, potash, and oxide of iron. The combined amounts of these latter substances do not in the case of any given mass of feldspar amount to more than one twentieth of the whole, the other nineteen twentieths being clay.

In the distribution of these substances by running water the soda, potash, lime and to some extent the iron oxide are taken into solution and thereafter go where the water goes while the insoluble clay with the remainder of the iron oxide are taken into suspension and carried greater or less distances before being deposited. The sand grains from the quartz crystals are at the same time rolled along and worn somewhat and finally dropped as a bed of sand. If the separation is

complete as it rarely is, beds of pure clay and of clean sand result. These pure beds are usually, however, the result of continuous or repeated washings and are quite infrequent. Usually the clay and sand are mixed in various proportions forming loam which will be either a clay loam or a sandy loam according to the relative amounts of the two. If the region is relatively high with steep slopes much of the clay will be carried away and a light sandy loam will be left while at some more distant place the clay will be deposited and a clayey soil or heavy loam will result. On the other hand if the region be relatively low with gentle slopes but little clay will be carried out of the district in which it is formed and a medium loam will be formed lighter or heavier according to the composition of the rock. If the granite that is decaying be notably feldspathic the clay will predominate over the sand, that is a clayey loam will be the soil formed. If the granite or gneiss be rather quartzose in character the sand will be in larger proportion than in the case just noticed and the loam will be of the light or sandy variety. The soil is thus seen to vary with two sets of conditions, the composition of the rock and the topography of the region in which the rocks are. For the most part the granite area of northern Wisconsin is relatively level, large areas having only very gentle slopes. Here the soil is quite uniformly a heavy loam.

Locally the slopes are steeper and the residual soil is a light sandy loam. Exact data for an accurate statement as to the relative areas of sandy loam and of clayey loam are yet wanting.

From the preceding brief discussion it will be seen that in so far as the origin of the soils of the state are concerned, we have three well-marked districts. The eastern and southern districts of heavy clayey loam, the central district of sandy soils and sandy loams, and the northern district of mixed sandy and clayey loams. Scattered through the eastern half of the state are many swamps some of them of considerable area. The total area of these swamps is so large as to make them an important element in considerations of soil distribution.

The distribution of these soils is not quite so simple as their origin, that is the three districts of origin have not retained completely the soils that originated in them. In each district there have been both additions and subtractions of soil

material. In this distribution various agencies have had part. These agencies have transported one kind of soil and have mixed it with other kinds, or they have taken up a mixture of several varieties and have carried them into a region having previously a single variety of soil. This gives to the soils of the state a somewhat mixed character. One result of this mixture is seen in the great variety of vegetation that may be seen growing on any small area. This fact is strikingly brought out by comparing equal areas of Wisconsin with any of the plains states, e. g. South Dakota. In the latter state if one schedules carefully the native plants found on a plot of prairie a few rods in extent, he finds that practically every other equal area for miles contains almost precisely the same plants. This is of course due to the uniformity of the soil over long distances in these prairie regions. A similar test in Wisconsin brings out the fact that the vegetation varies continuously and that the number of species is very much greater. This again is due to the great variety and to the mixing of the soils already referred to. It seems a fair inference that the soil of Wisconsin will produce a greater variety of cultivated crops.

THE MOVEMENT OF THE SOIL.

We may look upon the underlying rocks in process of decay as soil factories. The output of these factories in part accumulate about the shop as lumber does about a sawmill; but just as the lumber in the latter case is steadily carried away to other points either in rafts on the streams or on trains on the various lines of railway or by teams over the common roads, so the soil product is transported by various means to regions more or less remote from the place of origin.

These transporting agencies are mainly three, viz. winds, running water and moving ice. To these may perhaps be added the creeping due to gravity since on all slopes the soil is constantly slipping down hill.

Of these agencies the wind is of least importance, yet when its work is looked upon in the aggregate it is seen to be no mean factor in the problem. The wind exercises selection in its work of transportation. It transports only the finest material. It is further conditioned by the dryness of the soil-

stuff. From this it will be seen that the amount of soil transport, by wind, will vary directly as the aridity of the region and as the fineness of the soil material. The fact that in dry regions the winds are more continuous and stronger than elsewhere adds a large factor of power to soil movement by wind in such regions.

Wisconsin does not possess an arid climate hence soil movement by this means is reduced to a minimum. Nevertheless at certain seasons the total transport by wind is considerable.

A fact to be noted in this connection is that while the wind picks up and carries only the fine particles it drops them upon fine and coarse alike and so in the depositing regions, tends to mix the different sorts rather than to sort and separate as it does where it picks up its material. In regions in which the wind-transported material is large in amount, both the collecting and the depositing may be separatory in their character. The well known loess deposits of the Missouri valley and to a less extent of the lower Mississippi¹ valley are examples.

In such cases the constant removal of the fine material from the region where the wind gets its load results in increasing coarseness of the residuum. On the other hand the region in which the load is deposited has the total fineness of its soil increased. This last fact may be seen to good advantage in the deposits of the Missouri valley where the loess is often two hundred feet thick. Similar deposits on a much larger scale occur on the Yang tse kiang in China.

Running water. Water that falls on the surface either sinks into the soil, evaporates, or runs off into the streams. Evaporation may be neglected here. The part that sinks into the ground at once begins to dissolve the various minerals of which the soil is composed and the dissolved material thereafter goes where the water goes so long as it remains in solution. If conditions arise which render the water incapable of holding a given substance in solution that substance will at once be deposited. As this ground water is constantly present and constantly moving up and down as well as laterally, so this soluble material is shifting its location. At times it ascends and

¹ The loess of the Mississippi valley is believed by Chamberlain to be only in part due to wind action.

is deposited near the surface as the result of evaporation. After heavy rains the motion is downward near the surface. All this movement of soil matter in solution tends to complexity of soils wherever deposition occurs and to simplification where solution takes place. In the one case it is a process of subtraction, in the other, of addition.

The water that runs over the surface takes up the soil particles mechanically and carries them in suspension so long as the right conditions exist. The swifter the flow the greater the load the stream can carry and the coarser the particles it is able to transport. Running water is therefore a sorting agency. Its sorting power is active both in the getting of its load and in the deposition of it. As a stream's velocity is checked it lays down first only its coarser material. A further loss of velocity causes a dropping of finer material. A stream thus deposits gravel in one place, sand in another and clay in another.

As running streams are very numerous in Wisconsin it is apparent that a large quantity of soil has been transported by them. This soil-movement has been in part from one portion of a given soil-making district to another part of the same district. As for example the streams of the eastern part of the state carry the clays of that district east or southeast and either deposit them in other parts of the same clay producing area or carry them into Lake Michigan.

In other cases one type of soil is carried from its place of formation and deposited in a region that is producing another kind of soil.

Thus clay from the granite area of northern Wisconsin is carried south and mixed with the sandy soil of central Wisconsin. Owing to the special conditions of this transfer the sorting power of water is to quite an extent nullified at the depositing end in this case. The fine clay and silt from the northern area being carried into the sands more than is usually the case where such material is laid down by streams.

Therefore, while it is true that in general the action of running water results in sorting the soil matter and separating the coarse from the fine, there are cases in which, at the places where the water lays down its load a mixing of material occurs.

Moving ice. There remains for consideration the third and last of the agencies that have had to do with the distribution

and commingling of the soils of our state. This agency differs from the others in several important particulars. First as to the matter of time. The wind blows fitfully, now feeble and now strong; but feeble or strong, it blows constantly year in and year out, and may be presumed to have done so throughout all time. Practically the same may be said of running water. Most of the work of the streams is done during the comparatively few weeks of high water in the spring of each year when the soil is loose and easily taken up by the water. Yet some work is done every hour in the year, hence we may say that running water is an agent that works continuously.

Moving ice such as we have to consider is in sharp contrast in this respect. It works at infrequent and widely separated intervals. So widely separated indeed that for our purpose we may fairly consider it as having had but a single period of activity. That period was of long duration however and was concluded several thousand years ago.

Another difference is found in the area covered by the activities of these agents. While wind and running water may be considered as reaching practically every square foot of the state with greater or less effectiveness, moving ice, the great ice-sheet of the Glacial Epoch, covered only a little more than three-fourths of the state in its greatest advance and only about two-thirds of the state during the Wisconsin stage.

Ice work differs from stream work in still other particulars. A stream works along a relatively narrow line, shifting its course slowly but continuously so that, given time enough, it may occupy at some time every portion of its valley. Ice on the other hand covers its whole territory all the time.

Again a stream sorts its material and deposits it in a stratified condition. An ice-sheet mixes all its material and grinds it into a somewhat homogeneous mass and deposits it in a wholly unstratified condition. Huge boulders, gravel, sand and clay are heaped up together in discordant mounds and ridges or spread out in sheets without regard to origin or size of the material; and with equal disregard of the topography of the region where the deposit is made. Thus it is a common thing for the ice to pile up its material on the tops of hills as well as upon slopes and across valleys. Manifestly it is impossible for water to do this, although wind deposits are made with some independence of topography.

One other difference at least must be considered if we are to gain anything like an adequate conception of the effects of the ice-sheet in the distribution of soils. Ordinary streams such as those of Wisconsin can transport only relatively fine sediment. With increased velocity the size of the particles that may be carried increases at a very rapid rate, but none of the streams of Wisconsin are competent to the transportation of anything larger than coarse gravel. Most of them carry only the finer sediments, sand and clay.

The ice sheet on the other hand was able not only to carry all loose material that came within its reach regardless of size, but could and did transport immense loads, hills of mixed material all along its course.

CONDITIONS PRIOR TO THE ADVANCE OF THE ICE-SHEET.

Wisconsin is geologically a portion of one of the oldest parts of the earth. Its rocks have therefore had time to undergo profound decomposition. During part of this long period its elevation has probably been greater than at present and its relief stronger. As a result much of the material of the decayed rocks was swept into the sea.

It seems probable however that for a relatively long period the elevation of this region has been practically what it is at present. This moderate elevation together with its relatively level surface allowed a considerable accumulation of soil material within the borders of the state notwithstanding the fact that every stream was constantly carrying such material out of the state as at present. This material was slowly worked over, sorted and redeposited by the streams to be again worked over and redeposited a little farther down. This process was continuous during a very long period. The result was that at the time of the advance of the ice there was a moderately thick blanket of this soil-stuff mantling the whole state, but thicker in some portions than in others for the reasons given. The conditions may be fairly well understood by an examination of the southwestern part of the state, the part never covered by the ice and therefore a region in which the decay of the rocks, the work of the streams and the accumulation of soil-stuff has not been interrupted. The complete sway of the streams is at once recognized. A complete system of drainage is in operation. There is an entire absence of lakes and an almost entire absence of swamps. The soils are more largely local in

origin. The material has been sorted by water and the finer material carried to lower levels and in part out of the state. The topography also is in marked contrast with that of the eastern and northern portions of the state. Sharp ridges separate the valleys while symmetrical mounds and hills abound. The region has a much stronger and sharper relief than is found elsewhere in the state.

With some differences due mainly to the different types of rock in the different sections of the state the whole state presented essentially the same appearance at a time just prior to the advent of the ice-sheet.*

The direction of the advance of the ice in Wisconsin was mainly from north-east to south-west. In the east central portion of the state the movement was more westerly than southerly while in the north-west corner of the state, in Douglas and Burnett counties the movement was to the south-west.

In its movement over the country the ice-sheet (several hundred feet in thickness) carried the material which it transported partly in front of it and partly beneath. As it pushed forward it plowed up the loose blanket of soil already spoken of and carried a portion of it forward as a high irregular ridge along the ice front. At the same time it overrode the rest of the soil. This overridden portion, however, was in large part dragged along under the ice. Some of it moved nearly as fast as the ice, some more slowly and some perhaps not at all.

This differential movement of the soil blanket necessarily resulted in much mixing of the different materials, besides which there was added to the older accumulations, fresh portions ground off from the rocks over which the ice was passing. The whole mass, new and old was ground together and transported bodily to the southward and westward.

On the final retreat of the ice, that portion of the material that had been carried in front of the ice was left as a high irregular ridge, the terminal moraine, marking the halting place of the ice. The portion dragged along under the ice was left as a thicker or thinner blanket of till over the entire portion of the state covered by the ice.

This soil blanket differs in some important particulars from

* This article does not concern itself with the cause or duration of the ice-age but takes cognisance only of the effects of the movement of the ice and its effects on the character and distribution of the soil.

that due to water transport. Among these may be mentioned the lack of sorting, or a complete mixing and kneading together of the most diverse soil material. The unevenness of the deposit is another characteristic. The deposit varies greatly in thickness, being generally thicker in valleys and thinner on hills. To this statement there are some notable exceptions. The material pushed in front of the ice was quite as likely to be left on hills as in valleys, so that some of the thickest deposits of glacial drift are upon the higher grounds. In a measure the same thing was true of the material carried along under the ice. It sometimes filled valleys and sometimes was swept almost entirely out of them. In some places notably in the counties of Dane and Jefferson this sub-glacial material was deposited in the form of oval rounded hills. (Drumlins.) In general the region over which the ice passed is marked by a smooth sweeping topography in marked contrast with the sharper relief of the non-glacial portion.

Projecting knobs and hills were cut down, sharp ridges rounded, valleys filled and the entire pre-glacial drainage system obliterated.

The irregular surface left by the ice on its retreat allowed the accumulation of water in the countless lakes and swamps which to-day characterize the region once ice-covered. A new system of drainage is slowly establishing itself and the heterogeneous deposits made by the ice are slowly being worked over by the water and will in time all be carried to lower levels and made into stratified deposits.

The general result of the ice invasion, so far as the soil is concerned, then appears to be that over about three fourths of the state there was a bodily transfer of soil accompanied by a very thorough mixing and kneading of the same and also considerable additions of fresh material ground off from the more exposed portions of the rocky surface over which the ice moved.

This does not mean that the soil is uniform in character over the region mentioned. The grinding and mixing were indeed thorough, but where the ice found a large area of clay for example it usually incorporated into it some of the material brought from farther north, and carried from it some of the clay to be mixed with whatever lay in its course farther south. In other words the uniformity produced was relative, not absolute.

Mention has been made in this article of the swamps in some parts of the state. It is perhaps worth while to call attention to the very excellent farming land that results from the filling up and draining of these swamps. Most of them were formerly lakes. By the washing in of silt from the higher ground and the accumulation of vegetable matter (and in some cases marl also) the lakes are gradually changed to swamps or marshes and then to firm meadows and finally to good cultivable land.

The soil of such old lake beds is usually deep and exceptionally fertile unless the vegetable accumulation is in the form of peat. A peat swamp does not constitute a good foundation for farming land. If there is not mixed with the peat considerable silt or vegetable matter more decayed than the peat, the resulting soil will not be a very satisfactory one to the farmer under present modes of treatment of such soils.

In other words the soil resulting from the filling up of swamps may be said to vary inversely in value with the quality of the peat. The poorer the peat the better the soil. The best soils result in those cases in which there is no peat. The great durability and lasting fertility of these soils make them very desirable lands.

Somewhat related to these lands in general character are certain valley lands or river plains lying along the courses of streams.

These are built-up lands composed of the silt of the streams and more or less vegetable matter depending on the character of the country through which the stream flows. Such lands are least valuable along the course of streams carrying sand in considerable amount. The soil in such cases is often rich when first cultivated but does not usually retain its fertility long. The presence of so much sand makes the soil very porous and the vegetable matter oxydizes rapidly with a corresponding deterioration in the quality of the soil. If on the other hand the stream carries only fine silt the valley deposit will be of much the same quality as the swamp deposit previously mentioned and the land will possess high and lasting fertility.

In this connection a common feature of some practical importance may be noted. The character of the deposit made by a stream is often found to be entirely different on opposite sides of the stream. The distinction is often sharp and clearly

defined Clayey deposits may characterize one bank of the stream and sandy deposits the other. Sometimes glacial drift or boulder clay occupies one side and sandy deposits the other. The point is that the soil conditions found by an examination of one side of a stream are frequently very unlike those existing on the other side of the same stream. The foregoing remarks apply mainly if not entirely to those portions of streams along which deposition by the stream has taken place, that is to the parts of the stream in which the flow either is or has been sluggish.

CLIMATE.

Owing to the proximity of the great lakes, the climate of Wisconsin is more temperate than that of other states of the same latitude west of the Mississippi. The mean temperature for Jan. is about 12.8° F. above zero at Bayfield, 15.5° above zero at La Crosse and 19.3° above zero at Milwaukee. For July the mean temperature is 67° at Bayfield, 73° at La Crosse, and 69° at Milwaukee. This indicates that the climate along the lake shore is cooler in summer and warmer in winter than at interior points of the same latitude. The maximum temperature for the state ranges between 90° and 95° seldom exceeding 100° while the minimum temperature ranges between 10° above and 25° below zero and at very rare intervals exceeds 40° below zero in the coldest parts of the state.

Rainfall. The average annual rainfall is 31 inches and is quite evenly distributed over the state, being slightly greater along the shores of Lake Michigan than in those sections of the state farther west. The precipitation is greater between July and October than at any other season of the year. Thunderstorms are frequent in summer, but in winter the air is dry and clear; the snow-fall in the northern part of the state is generally heavy while in the southern part it is comparatively light.

CHAPTER II.

INDUSTRIES OF WISCONSIN.

AGRICULTURE.

Location, Area, etc. The state lies between $42^{\circ} 30'$ and $47^{\circ} 3'$ north latitude and $86^{\circ} 49'$ and $92^{\circ} 54'$ west longitude, and has an area of about 56,040 square miles, of which about 1,590 square miles are covered with water. Of the total area over 66 per cent or about 37,000 square miles are yet unimproved. This means that the State of Wisconsin can as conveniently furnish homes for 1,388,000 families or 6,686,000 people as it is now furnishing homes for 462,814 families or 2,228,949 people, and the wealth of the State could thereby be increased three fold. More than this, when the farmers of the state recognize as they do in the East and in Europe, and as they are beginning to do in Wisconsin, that more wealth can be produced by *intensive* rather than *extensive* farming; when capital recognizes that in no other state is there so promising a field for the development of water powers for manufacturing, transportation, and lighting purposes; when our excellent facilities for water and railroad transportation of raw materials and finished products are considered; they will appreciate the fact that the number of inhabitants Wisconsin will support and the industrial possibilities the state affords can hardly be over estimated.

No state in the Union possesses a more fertile soil, and with equal cultivation and fertilization, no state is more productive, according to the reports of the United States Department of Agriculture. The state of Maine produces more wheat, corn, oats, buckwheat and potatoes per acre than Wisconsin or any

of the surrounding states. New Hampshire, Vermont, or Massachusetts produces more tobacco per acre than Wisconsin. Yet when it is considered that Maine has but about one-eighth of an acre of corn in every forty acres in farms to Wisconsin's three acres for every forty acres in farms; that for every forty acres in farms in Maine, there is only one-fourth acre of wheat while Wisconsin has three-fourths; that for every forty acres in farms in Vermont there is less than one one-hundredth of an acre of tobacco while Wisconsin has one-twelfth of an acre, the conclusion can easily be drawn that the greater productiveness of Maine and Vermont for these crops is largely due to fertilization and cultivation.

In order to arrive at some conclusion as to the relative standing of Wisconsin as an agricultural state, the following table has been prepared and those states which are, in the main, subjected to similar climatic conditions and similar methods of farming have been selected for comparison.

The following table gives the average number of bushels of grain and amount of hay and tobacco produced per acre, based upon the amount produced for the years 1896-1905 inclusive, for all the states located in the upper Mississippi Valley, together with the average amount produced per acre in the United States for the same period.

State.	Potatoes.	Corn.	Wheat.	Oats.	Barley.	Rye.	Buckwheat.	**Flax.	Hay, tons.	Tobacco, lbs.
Michigan	82.1	35.5	13.8	32.7	24.5	15.5	14.6	.....	1.33	709
Ohio	74.6	34.7	13.8	31.8	26.7	16.1	16.9	.....	1.36	8-6
Indiana	72.7	33.9	12.2	31	24.6	13.9	16.7	.....	1.38	615
Illinois	80.1	34.5	12.2	32.5	26.9	16.6	14.7	.....	1.36	635
Missouri	75	37.5	12.7	22.5	19.8	13.9	15.3	7.8	1.33	670
Iowa	80.8	32.5	14.2	31	25.6	17.6	15.3	11.4	1.53	.....
Kansas	73.7	22.4	13.7	23.9	19.6	13.4	12.7	8.	1.45	.....
Nebraska	83.1	28	15.4	27.9	24.1	16.6	15.4	10.2	1.61	.....
S Dakota	81.3	25.8	11.1	30.4	25	15.9	.....	11.2	1.34	.....
N. Dakota	94.3	22.6	12.1	26.1	33.5	14.9	11.1	11.6	1.46	.....
Minnesota	86.6	29.1	13.3	33.3	26.4	18.7	14.7	11.3	1.67	.....
Wisconsin	92.3	33.2	15.7	34.9	28.9	16.1	15.3	13.	1.53	1,349
Average for United States	75.4	29.2	13.5	29.6	25.1	15.4	18.1	11.2	1.47	797

* Average for years 1901-1905 inclusive.

† Averages for the years 1901-1904 inclusive.

** Average for the years 1900-1904 inclusive.

*** For the year 1905 only. No figures for other years obtainable

In this table a comparison of the total amount of products produced in each state has not been attempted, because a knowledge of the productivity of the soil could not thus be

obtained. The fact that one state with an area of one-hundred thousand square miles produces one and one-half times as much corn as a state having an area of fifty thousand square miles does not indicate by any means that the soil of the larger state is any more productive than the soil of the smaller or vice versa. But in order to ascertain the relative productivity of the soil for various crops, the average amount produced per acre must be known. Even this knowledge will not be absolute because the amount any soil will yield depends very largely on cultivation, climate, method of farming, etc. Yet, as stated above, by taking those states having similar conditions in these respects, definite conclusions may be deducted.

The following tables show that in two essential points, production per acre and earnings per acre, Wisconsin leads all the states that have large areas of undeveloped agricultural lands. Ohio, Indiana, Illinois and Missouri average about the same in earnings per acre as Wisconsin, while Kansas, Nebraska, the Dakotas and Minnesota fall below the Wisconsin average in earnings. In six of the nine commodities mentioned Wisconsin is materially above the average for the entire United States in the matter of earnings.

But Wisconsin, by reason of her diversified industries makes a better showing still when all farm products are included in the computation. The federal census returns furnish the basis for such a computation for the year 1899, in which all farm products inclusive of live stock, butter, cheese, milk, poultry, eggs, vegetables, fruit, and everything sold from the farm is included in the value of the farm products and the acreage of cultivated land is given. By arranging the manufacturing states and the agricultural states in groups, as in the two tables following, the value of a home market to the farmer is made apparent. Earnings per acre advance in due proportion with the number of factories and wage-earners and the amount of money paid out in wages. The table on page 379 shows the influence of the manufacturing industries on the prices paid for specific crops; the next table, the earnings per acre from all farm products.

FROM CENSUS RETURNS FOR YEAR 1899, AND CROP REPORTED FOR DECEMBER, 1905.

Value of Crops per Acre by Groups of States *

	No. of factories.	Hands employed.	Total wages paid	Value of production.	Corn.	Oats.	Barley.	Rye.	Potatoes	Hay.	Winter wheat.	Spring wheat.
Michigan	16,807	162,335	\$86,467,867	\$356,044,082								
Indiana	18,015	155,956	66,847,610	378,120,140								
Illinois	38,390	397,110	191,510,932	1,259,790,108	\$15.54	\$10.17	\$12.54	\$9.80	\$41.08	\$14.40	\$14.59	\$12.61
Wisconsin	13,187	142,078	58,407,357	360,818,942								
North Dakota	1,130	2,898	\$1,222,472	\$9,183,114								
South Dakota	1,639	3,121	1,514,409	12,231,239								
Iowa	14,819	58,553	23,931,680	161,617,877	\$10.57	\$6.78	\$6.18	\$3.46	\$38.19	\$6.23	\$14.20	9.80
Minnesota	11,114	77,234	35,484,825	262,655,881								\$9.44
Kansas	7,830	35,193	\$16,317,689	\$172,129,368								
Nebraska	5,414	24,461	11,570,688	143,940,102							\$11.66	\$9.62
South Dakota	1,639	3,121	1,514,409	12,231,239	\$9.85	\$8.25	\$8.11	\$8.04	\$40.72	\$7.06		
North Dakota	1,130	2,898	1,222,472	9,183,114								

* The prices given for the agricultural products in this table are the averages for the four states of each group.

FROM CENSUS REPORT FOR YEAR 1890.

Average earning per acre by groups of states.

	Total value of farm products	Total crop average.	Earnings per acre.	Average per acre.
Michigan.....	\$146,517,681	8,062,013	\$18 10	\$17 79
Indiana.....	204,450,196	11,407,798	17 88	
Illinois.....	345,649,611	20,865,406	16 51	
Wisconsin.....	157,445,713	8,270,127	18 71	
Iowa.....	363,411,528	22,170,701	16 48	10 69
Minnesota.....	161,217,801	15,139,962	10 65	
North Dakota.....	61,252,494	7,821,875	8 20	
South Dakota.....	66,082,419	8,848,731	7 41	
Kansas.....	209,895,542	18,394,271	10 92	9 32
Nebraska.....	162,696,386	15,153,953	10 72	
North Dakota.....	64,252,494	7,821,875	8 20	
South Dakota.....	66,082,419	8,848,731	7 41	

The following table shows the average earnings per acre for the years 1896-1905 inclusive, received for the various crops indicated, except for flax and tobacco. The prices for flax is for the year 1905. For tobacco the average for the years 1900-1905 inclusive.

State.	Pota- toes.	Corn.	Wheat	Oats.	Bar- ley.	Rye.	Buck- wheat.	Flax.	Hay.	To- bacco.
Michigan.....	\$31.08	\$12.91	\$10.56	\$9.70	\$11.80	\$7.30	\$7.17	.....	\$11.64	\$52.98
Ohio.....	36.92	12.61	10.70	9.93	12.25	8.79	9.75	.....	11.61	64.27
Indiana.....	34.15	10.92	7.31	8.00	11.60	7.01	9.81	.....	10.81	50.09
Illinois.....	39.26	10.99	9.44	8.36	11.54	8.46	9.41	.....	10.78	40.28
Missouri.....	34.96	9.04	8.54	6.03	9.15	7.50	10.09	\$6.79	8.96	69.78
Iowa.....	30.52	9.26	8.97	7.11	8.47	7.46	9.27	9.80	8.47	.....
Kansas.....	37.72	6.80	8.60	6.44	5.72	6.24	9.61	6.64	6.19	.....
Nebraska.....	31.90	7.50	8.98	6.41	7.21	6.41	9.55	8.98	6.42	.....
S. Dakota.....	30.10	7.75	6.70	7.43	7.57	6.45	.....	9.30	5.01	.....
N. Dakota.....	33.77	8.44	7.51	7.69	7.46	6.32	7.12	9.74	5.68	.....
Minnesota.....	30.53	8.93	8.80	8.03	8.65	8.29	7.87	9.71	8.56	.....
Wisconsin.....	39.09	12.03	11.10	9.15	11.91	7.93	8.17	11.83	11.55	104.82
Average for U. S.	43.31	9.15	9.35	8.34	10.35	8.10	8.58	9.45	11.54	.....

The figures in the above tables are taken from the reports of the Department of Agriculture and are based upon an average for the years, 1896-1905 inclusive, except as otherwise stated. In the production of potatoes, Wisconsin stands second to none except North Dakota and produces about 18 bu. per acre more than the average for the United States. It stands fourth in the production of corn and produces 8 bu. per acre more than the average for the United States. In the production of wheat, it stands first and produces over 2 bu. per acre more than the average for the United States. In oat production it is only equaled by Ohio and produces over 5 bu. per acre more than the average for the United States. In the production of barley it excels all other states in this list and produces about 4 bu. per acre more than the average for the United States. It stands sixth in the production of rye and does not greatly exceed the average production for the United States. In the production of buckwheat it stands about fourth and produces nearly 3 bu. less than the average for the United States, while in tobacco it exceeds the average for the United States by over 500 lbs. and 734 lbs. per acre more than any other state in this group. In the production of hay it is better than the average.

The character and amount of agricultural products of a state are indicative of what it can be made to do in the production of live stock. Of the above states, Wisconsin stands seventh in the number and value of horses and mules, first in milch cows, sixth in other cattle, fourth in sheep, and seventh in swine. This indicates that under present conditions Wisconsin is up to the average of the other states of this group in the production of horses, mules and swine and is much higher than the average in the production of sheep, milch cows, and other cattle. This does not mean that there is a greater number of milch cows in Wisconsin than in Iowa, but it does mean that Wisconsin is supporting a larger number of cows per acre of farm lands than any other state in this group. Its rank as to the other kinds of live stock is ascertained in this same way.

MANUFACTURING.

The total number of manufacturing establishments having an output of \$500 or over increased from 7,841 to 8,558, or 9.1 per cent from the year 1900 to 1905. The amount

of capital invested in these establishments increased from \$286,060,566 to \$416,447,051 or 45.6 per cent. The number of salaried officials, clerks, etc., increased from 10,480 to 14,220 or 35.7 and the salaries paid increased from \$10,492,562 to \$15,498,232 or 47.7 per cent. The number of wage-earners increased from 137,525 to 151,391 or 10.1 per cent, and the total wages paid increased from \$55,695,816 to \$71,471,805 or 28.3 per cent. The miscellaneous expenses of these establishments increased from \$31,871,426 to \$45,074,156 or 43.3 per cent and the cost of materials used increased from \$185,695,393 to \$227,255,092 or 22.4 per cent, while the value of products including custom work and repairing increased from \$326,752,878 to \$411,139,681 or 25.8 per cent. Those establishments having an output of less than \$500 annually are almost wholly made up of such industries as hand trades, building trades, dress making, custom millinery, custom sawing and grinding, cobbling and blacksmithing. These do not form a part of our sugar factory system proper.

In the production of beet sugar Wisconsin probably ranks third producing about 21,000 tons in 1906, while in the census of 1900 no production of beet sugar is reported. Several small sugar plants had been built prior to that date but all had failed, because of poor management, lack of capital, and insufficient supply of raw material, and in one case, defective machinery. Since 1900 four factories have been built within the state and one across the boundary line in Menominee, Michigan, at an aggregate cost of \$3,700,000, and a total capacity of about 3,500 tons. About 70 per cent of the beets used in the Menominee factory are grown in Wisconsin, making it practically a Wisconsin factory. At the present rate of growth in this industry, Wisconsin is destined to soon take the lead in the manufacture of beet sugar. The soil in nearly every part of the state is well adapted to beet culture and with proper cultivation a good crop is always assured. The amount raised per acre varies from seven to thirty tons, and averaged 17.37 tons for eleven seasons in which beets were grown on the University farm at Madison. The average returns per acre to the farmers of the state who have grown sugar beets amount to about \$65 clear of all expenses. It is the only crop grown by the farmers upon which the price is fixed before it is grown, and for which

the producer is reasonably sure of what the returns will be in advance of harvest time. This element of certainty is a leading factor in the rapid growth of this industry. This crop is hard on the soil, but by rotating it with oats, corn and tobacco or wheat, the fertility of the soil is not materially impaired.

DAIRYING.

Wisconsin leads all other states in the number of cheese, butter, and condensed-milk factories. From 1890 to 1900 these factories increased from 966 to 2,018, or more than doubled. The state Dairy and Food commissioner reports that there are over 1,600 cheese factories and about 1,300 creameries and skimming stations in the state at the present time. Measured according to product, Wisconsin produces more cheese butter and condensed milk than any other state in the Union. Its output of these products is 1-6 of the total output of the United States, twice as much as the combined output of all the New England States, one-half as much as the total produced in New York, New Jersey, Pennsylvania, Delaware and Maryland, one-half as much as is produced in Ohio, Michigan, Indiana, Illinois, Minnesota, and Iowa, and one and one-tenth times as much as is produced in Kentucky, Tennessee, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Texas, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota, Montana, Idaho, Washington, Oregon, California, Nevada, Utah, Colorado, Wyoming, New Mexico, and Arizona.

The census for 1900 shows that Wisconsin produced cheese, butter and condensed milk to the amount of \$50,393,016 from 998,397 cows, or an average of over \$50 per head, while the average for the United States is only \$35 per head. This includes the amount of these products produced on farms as well as in factories.

From 1900 to 1905 the amount of cheese manufactured in the state increased from 60,000,000 pounds to 110,000,000 pounds, or 83 $\frac{1}{3}$ per cent. During the same period the amount of butter produced on the farms and in the creameries increased from 80,000,000 to 123,000,000 pounds, or 53 $\frac{3}{4}$ per cent. This remarkable growth of the dairy industry is partly due to increased production in the older dairy counties, but

more particularly to the impetus that has been given the industry in counties in the central and northern sections of the state and in counties where cheese and butter making were comparatively unknown at the beginning of the period. Six years ago there were but few factories in central and northern Wisconsin; now Waupaca, Shawano, Clark, Wood, Marathon, Portage, Eau Claire, Chippewa, Taylor, Lincoln, Barron, Polk, Burnette, Brown, Oconto, and Marinette may be classed as dairy counties owing to the importance that cheese and butter making have assumed in their industrial economy. Other northern counties, such as Price, Ashland, Douglas, Sawyer, Washburn, Rusk, Oneida, Vilas and Iron already are preparing to follow in the footsteps of the neighboring shires before named and another decade will see the dairy industry firmly established there.

Every recognized authority on dairying who has made an investigation of the northern Wisconsin counties has expressed the opinion that the day would come when that section of the state would be recognized as the greatest cheese section in the United States. The cool nights of the summer months, the pure water of the celebrated Wisconsin lake region, and last, but most important, the nutritious grasses of the famous "grassland" region of the state, all contribute to make this the ideal dairy section. For twenty-five years Prof. W. A. Henry, dean of the Wisconsin College of Agriculture and former Gov. W. D. Hoard, one of the founders of the Wisconsin Dairymen's Association, editor of Hoard's Dairyman, and an authority on dairying who has an international reputation, have been firm in the opinion, frequently expressed, that all of the conditions that are required for successful dairying, and for cheese making in particular are to be found in northern Wisconsin.

THE WISCONSIN "GRASSLAND" SECTION.

More than half a century ago, while Wisconsin was still a territory, the lumbermen found their way into northern Wisconsin. As soon as it was possible for them to "tote" tame hay to their logging camps to feed their stock they began to scatter the seeds of the volunteer grasses that have made northern Wisconsin the famous "grassland" section of the northwest. It was first noticed that the logging roads and "tote" roads, over which supplies were hauled to camps, would in

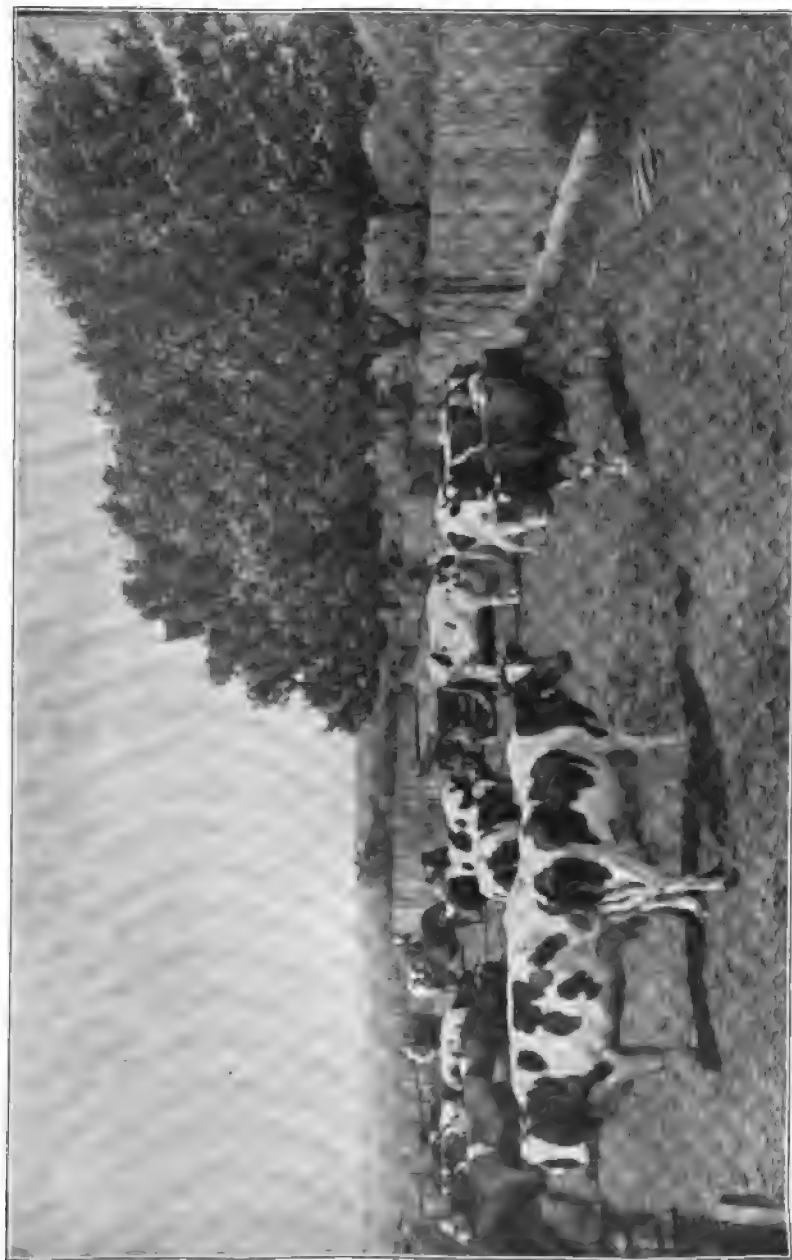
summer be covered with rank growths of timothy. This prompted some of the lumbermen to clear tracts upon which they scattered grass seed and the resulting crop of hay was in every case surprising.

At the present time the consequences of that early seeding are everywhere apparent. There are thousands of square miles of wild lands in northern Wisconsin where volunteer grasses, timothy, alsike, red and white clover, and Kentucky blue-grass are to be found wherever there is an opening where the sun can shine upon the ground. There are thousands of acres of burned over lands, miles from any human habitation and from roads as well, upon which patches of clover or timothy may be found in openings where the brush has not yet shut out the sun. White clover is found by the road sides, in the village streets, in pastures where it has fought for a place among the cultivated grasses. It runs out lawn grass in the villages and cities; it has been known to grow over and cover gravel walks; it is believed by many residents of that section that even the pernicious dandelion will never be able to invade the territory where the white clover reigns.

In some parts of the grassland section alsike clover is almost as persistent as white clover, and the two make good pasturage for cattle and sheep on the burned and cut over lands. Experiments are now being made in fattening stock for market on these lands. Large numbers of sheep are shipped from the Montana ranges in the spring to the northern Wisconsin tracts, to be marketed in the fall in Chicago and Milwaukee. Cattle, known as "feeders," are bought in St. Paul and allowed to graze upon the wild lands where they find abundant pasturage. Where these experiments have been properly managed they have resulted successfully.

OPENINGS FOR INVESTEMENT OF CAPITAL.

About 1-40 of the wool and 1-50 of the woollen goods produced in the United States are produced in Wisconsin. This would indicate that this state is a fair field for the manufacture of wollen goods. The same is true of the wheat flour and the meat packing industries. Wisconsin produces about 1-12 the wheat of the United States and less than 1-20 of the flour, while it produces 1-30 of the live stock and 1-50 of the packing-house products.



NORTHERN WISCONSIN DAIRY COWS AND ORCHARD.

In the canning and preserving industry Wisconsin is below the average. The value of these products in this state is less than \$1,000,000 while it exceeds \$45,379,000 in the United States. Wisconsin's products in this line of industries come wholly under the head of "canned vegetables." The abundance with which vegetables, apples, and berries of all kinds can be grown in this state would indicate that capital could very profitably be invested in further developing the canning industry.

The manufacture of potato starch offers another opening for the investment of capital. Maine stands first in the production of this article, Minnesota second and Wisconsin third, while the latter produces more potatoes than both Maine and Minnesota combined.

The tobacco industry affords another opportunity for the investment of capital. In the amount of tobacco grown this state ranks sixth, and eighth in the amount of cigars and cigarettes produced and twelfth in the amount of chewing and smoking tobacco manufactured. In the production of these prepared tobaccos the manufacturers of the state consume about seven million pounds of leaf tobacco, while the state produces over fifty million pounds annually. This means that about forty-three million pounds of raw material are annually shipped out of the state that could very profitably be manufactured within its borders.

Another illustration of what could be accomplished along this line is offered in the leather industry. Wisconsin stands third in its value of leather, (tanned, curried and finished,) while it ranks fourth in the manufacture of gloves and mittens, and tenth in the boot and shoe industry.

In lumber and planing-mill products Wisconsin leads all other states. This, in itself, affords a much larger field for the manufacture of furniture and other commodities in which lumber is the principal material used, than is yet utilized in the state.

The state affords a fruitful field for the curing and packing of fresh-water fish.



LOGGING SCENE, NORTHERN WISCONSIN.

PORTLAND CEMENT.

An industry that is destined at no distant day to become one of the most important in the state is the manufacture of Portland cement. The raw material for the manufacture of the best quality of this cement are marl and clay, and to make these materials available the percentage of magnesia in the two when mixed must be as low as possible, and, in any event, it must be below 4 per cent. The clays preferred are those that run high in silica and aluminum and low in magnesia and iron oxide; the marl is principally valuable for its lime. Were it not for the fact that as a rule limestones carry too high a percentage of magnesia and iron oxides they could be used as a substitute for marl, but there are few known deposits of limestone in this country that will answer the purpose.

Marl is a sedimentary deposit caused by chemical action in lake water. Owing to the fact that it is found to contain marine shells it has been popularly supposed to be composed entirely of decomposed shells, but this is an error.. The geological survey of the state has disclosed the fact that there are almost inexhaustible quantities of marl in the lake beds and the dry beds of old lakes, now swamps and marshes, in the northeastern, central and southern portions of the state. There are also known to be large deposits of the quality of clay required by this industry. The kaolin clays of the central part of the state are admirably adapted for use in making Portland cement and there are other deposits that fill all the requirements of the industry. While a detailed survey has not yet been made in the state to ascertain the approximate quantity of marls and clays that can be utilized in the manufacture of the best quality of Portland cement, enough has been done in this line to warrant the assertion that the supply of raw materials is practically inexhaustible.

Cheap fuel is required in the Portland cement industry and cheap power is another essential. While Wisconsin has no coal mines, the quality of coal needed for fuel can be shipped by water to any of our lake ports. Again, there are thousands of acres of peat bog in the state that can be converted into gas at a trifling cost and used for heating the furnaces, while the near proximity of water powers affords an opportunity to secure the cheapest power in the world for driving the machinery

of the plants. Already the transmission of electricity from central water power plants has become so common that it is unnecessary to discuss this phase of the subject as a problem.

Wisconsin consumes approximately 1,500,000 barrels of Portland cement a year and the demand is increasing at a rapid rate. With the decadence of the lumber industry the Portland cement industry is assuming enormous proportions, cement being used as a substitute for lumber and stone in all classes of buildings, bridges, viaducts, subways, dams, and in canal construction. With cheap raw materials, cheap power, and cheap fuel, Portland cement can be manufactured as cheaply in Wisconsin as in any state in the Union. The freight on a barrel of cement from Pennsylvania, where a large part of the product is manufactured, is 70 cents, and the saving on freight alone would pay an enormous dividend on the capital stock of a Wisconsin factory. It would take five factories, each of a 1,000 barrel daily capacity to supply the local demand alone, and the annual increase in the demand will furnish a market for the product of a new factory every year.

It should be remembered that in Wisconsin in some cases the two raw materials, marl and clay, are found side by side. This is true of those materials at the site of a plant to be built the coming year near Portage, in Columbia county. The marl lies in the bed of a lake; the clay is found on the bank of the same lake. And, in addition to this, there is a large peat bog near the factory site that will be converted into producer gas with which to heat the furnaces where the cement clinkers are burned. Power will be transmitted from a near by water power where electricity will be generated and sold to customers.

In Michigan, where the Portland cement industry has been developed to enormous proportions, there is little clay that can be used for its manufacture and the necessary supply is shipped from Ohio. This fact is mentioned merely to show how favorably Wisconsin is situated for the development of this industry.

In other industries, Wisconsin ranks as follows:—third in the production of shingles, tenth in clay products, fifth in paper and pulp, twelfth in value of newspaper products such as subscriptions, sales and advertising, tenth in value of iron and steel products and products of blast furnaces, ninth in steel works and rolling mills, third in the production of zinc-oxide,

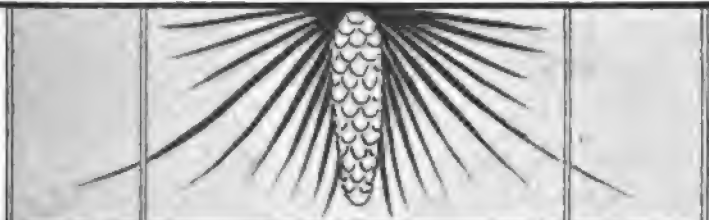
tenth in electrical apparatus and supplies, seventeenth in ship building, tenth in motor vehicles, eleventh in cars and general shop construction and repairs, seventh in carriages and wagons, fifth in bicycles and tricycles, fourth in agricultural implements, and value of motive power appliances such as steam engines and water motors, thirteenth in production of coke and twelfth in the manufacture of gas.

MINES AND QUARRIES OF WISCONSIN.

The value of the output of the mines and quarries in Wisconsin in 1902 was \$4,427,813, or 1.2% of the total value of the product of manufacturing and mining industries of the state. Wisconsin ranks 12th among the states in agriculture, 9th in the gross and net value of its manufactured products and 30th in the value of its mineral products. The mines and quarries of the state in 1902 employed 3,583 wage-earners. The value of the principal minerals produced in the above year were as follows: Iron ore, \$1,800,864; lead and zinc \$473,652; siliceous and crystalline rocks, \$369,137; sandstones and quartzites, \$207,086. and limestones and dolomites, \$1,351,058.

Iron ore, similar to that of Michigan occurs in Wisconsin south of Lake Superior. The development of these mines has been greatest since 1884 in the Gogebic district. In 1902 the state produced 783,996 long tons of iron ore, 79% of which was mined in Iron County. A new iron mining region and one which bids fair to grow to considerable proportions has recently been opened near North Freedom, in Sauk County. In 1905 this mine produced nearly 80,000 tons of ore. Traces of iron have been found in nearly all of the two northern tiers of counties, some of which are very promising.

The most important part of the upper Mississippi valley lead and zinc district is in southwestern Wisconsin comprising Grant, Iowa and Lafayette counties. Lead mining in these counties has been general since 1830, and zinc mining since 1860, the latter product growing to greater relative importance annually. In 1902 the total production of lead and zinc ores was about 21,999 short tons having a value of \$473,652. Of this production only 2,623 tons were lead ores. Of the 90 mines operated in 1902, 27 mined lead only, 23 mined zinc



A RIVER IN PRICE COUNTY.

only and 40 mined both lead and zinc ores. The number and output of these mines have increased very rapidly since the above date. The present development of this region is due in a large measure to the use of modern methods of mining and concentrating the ores to displace the primitive methods so long in use. Within the last four years some thirty or more mines have opened up with modern machinery much of which is similar to that used in the Joplin zinc district. Large quantities of ore of high grade are being sent out of the district.

A large amount of the early mining in this region was confined to very shallow workings. In certain places the ground down to a depth of twenty feet from the surface has been literally honey-combed by this early work, there being many tracts with surface indications of these diggings. It was customary to sink pits very close together along crevices and from the bottoms of these pits tunnels were run out. Speaking of these tracts, the Wisconsin Geological Survey says, "These old workings furnish at the present time the very best places for prospecting, and in fact it may be said that practically all of the larger mines working today are operating on the lower portions of deposits which were worked close to the surface in years gone by. There are most excellent reasons for believing that within the lower 75 feet of the Galena limestone and the upper part, perhaps the upper 15 feet, of the Trenton limestone, there exists such a quantity of lead and zinc ore, especially zinc ore, that the supply will not be exhausted for a number of years to come. This statement is made after a careful consideration of the facts in the case and a study of the mines which have been recently opened up." Additional mining ranges are being discovered from time to time, and old ranges are being extended. The fact that there are hundreds of ranges already known, only the upper parts of which have been mined and that below many of these there are rich deposits of zinc and lead ore, are sufficient reasons for believing the future will see more zinc ore produced from this district than has been produced in the past. Capital and improved mining methods are the immediate needs of this region. With the interest at present shown by capitalists and investors and the extensive operations planned or already under way, Wisconsin is destined to occupy a most important position among the lead and zinc producing states of the Union.

Limestone underlies a large part of the state. It ranges in color from straw-yellow to a dark bluish grey and much of it is excellently adapted for building purposes. Wisconsin ranks seventh among the states in the production of limestone, the value of the products being \$1,351,058, of which amount \$296,998 represents building stone which is quarried principally in Brown, Door, Milwaukee, Rock and Waukesha counties. The largest quarries are in Calumet, Door, Fond du Lac, Manitowoc, Racine and Waukesha counties, where there are still many fine opportunities for development.

About one-third of the area of the state is underlaid with the older siliceous crystalline rocks, the quarrying of which during the last twenty-five years has assumed considerable proportions. For monumental purposes Wisconsin granite has no superiors and for structural purposes, the quarries can furnish either gray or red granite of any required dimensions. No state in the Union has such a bountiful supply of materials for road constructions. The granites vary in texture from exceedingly fine grained to the coarse grained porphyritic varying in color from a brilliant red to a dark gray. The best quarries are located in Dodge, Green Lake, Marathon, Marinette, Marquette, Sauk, Waupaca and Waushara counties. The output of the eighteen largest quarries in the state is approximately \$400,000.

One of the most widely distributed building stones, having a great variety of color and texture, is the Wisconsin sandstone. This stone appears in the northeast corner of the state and swings in a broad belt to the southwest and then again to the northwest. A second belt crosses the state south of Lake Superior. Stone from this belt has been selected for building purposes in many states. Sauk county ranks first among the sandstone producing counties, with Dunn second and Bayfield third. These quarries in most instances are small and but slightly developed but the opportunities for extensive quarrying are numerous and unexcelled.

MARKETS.

Geographically, Wisconsin is advantageously placed with respect to markets. From its ports on Lakes Superior and Michigan the products of its farms, factories, mines, mills, and quarries are shipped by water to the east. On the western

border is the Mississippi river, a waterway that exercises a strong influence on freight rates, although the river borne freight has not been of great volume during recent years. The state is well served by railroads, there being no section that is entirely cut off from connection with distributing points by rail, even in the newer and more sparsely settled portions of the north, and new lines are now being constructed that will further increase the efficiency of the transportation service.



NORTHERN WISCONSIN.

But that is not all. The state has a large urban population engaged in mercantile and manufacturing industries, and in transportation. This population resides in cities and villages ranging from 350,000 people to a few hundreds, all consumers of the products of the farms. Beyond the borders of the state, but still within the limits of what may be called the home market, are Chicago, the mining and manufacturing region of the upper peninsula of Michigan, the mining and lumbering region of northern Minnesota, and the prairie states lying west of the Mississippi to which Wisconsin manufacturers ship farming implements and machinery, engines, furniture, chairs, and a large line of commodities manufactured from na-

tive woods and metals. In the territory outlined there is an urban population alone of 4,262,673, and Wisconsin, with her vast resources of fruitful soil, raw materials, and transportation facilities lies in the center of this market where the demand never fails and prices are uniformly remunerative.

SUMMER RESORTS.

As a summer-resort state, Wisconsin is probably unexcelled. The thousands of fresh-water lakes scattered over the northern and eastern portions of the state, filled with bass, perch, pickerel, and other fresh-water fish; the hundreds of fresh-water streams abounding in speckled and rainbow trout, vast forests with an abundance of deer and small game of all kinds, all combine to make Wisconsin a most desirable place for those who love the quiet haunts of lake or stream, and to get away from the busy life of the city for a summer's vacation.

TO HOMESEEEKERS.

The advantages that the homeseeker will find in northern Wisconsin may be enumerated as follows: Cheap land; cheap fuel; cheap building material; fertile soil; pure water; healthful climate; markets for everything that can be produced on a farm; an opportunity to find employment during winter months when the prairie farmer is idle, or to employ himself on his own land at a profit in getting out cord wood, fence posts, pulp wood—which now sells at \$7 a cord—telegraph and telephone polls; creameries and cheese factories already established or rapidly being built and put in operation; good schools; a progressive, energetic, prosperous citizenry, and ample railroad facilities.

It takes work to build a home and clear a farm in northern Wisconsin, but the man who is willing to work and who will work intelligently can always secure ample returns for his labor. Where there is timber on the land, every stick can be sold at a good price, enough to pay for clearing the land, and the increase in the value of the cleared land will be clear profit. Where there is little or no timber, as in some of the burned over tracts, the cost of clearing is inconsiderable and the increase in value of the land when cleared is ample pay for the

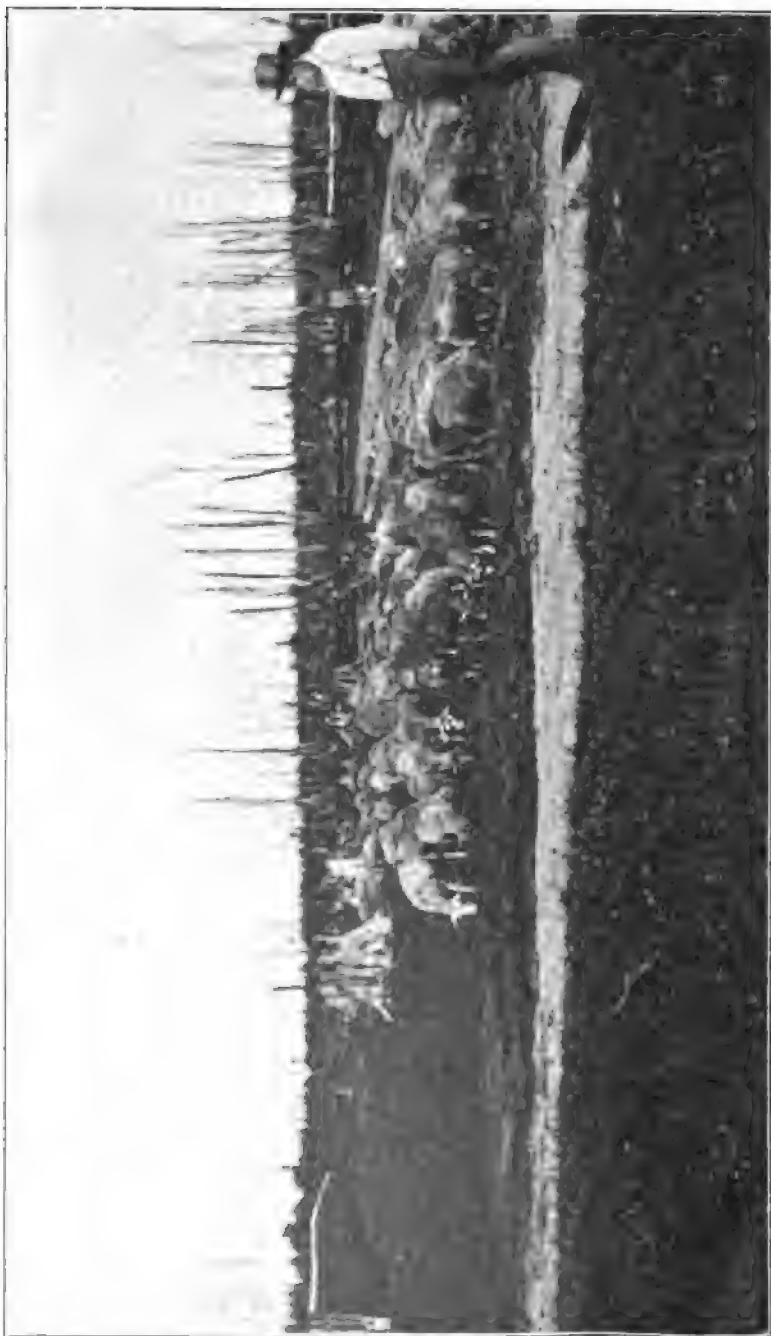
work put upon it. When a man can buy land at from \$7 to \$15 an acre, and, by clearing it, make it worth \$50 an acre, he is employing his time to some profit, particularly as he is providing for himself a home and making himself independent of panics, industrial depressions, strikes, lockouts, landlords, or any of the other ills that workmen or renters most dread.

POPULATION.

The population of the various political divisions of each county will be found in connection with the discussion of each county in the succeeding pages of this report. The following table shows, in a general way, the movement of population from the year 1900 to 1905. The first column gives the total population of each county, the second the area of each county in square miles, the third and fourth gives the population per square mile for the years 1900 and 1905 respectively, while the last two columns give the number and per cent of increase or decrease in the population per square mile. Eighteen counties show a decrease in population per square mile. Three of these are in the northern half of the state, three on the borderline between the northern and southern halves, and twelve are in the southern half. Every county in the state showing an increase of over 10% in the population per square mile is in the northern half of the state except Racine, Milwaukee and Kenosha.

County.	Popula- tion in 1905.	Area in square miles.	Population per square mile.		Increase (+) or decrease (-).	
			1900.	1905.	Number.	Per cent.
Adams	9,062	682	13.40	13.29	- .11	.82
Ashland	23,935	930	21.69	25.74	+ 4.05	18.67
Barron	28,376	878	26.97	32.32	+ 5.35	19.84
Bayfield	15,904	1,497	9.61	10.62	+ 1.01	10.51
Brown	52,026	518	89.50	100.44	+ 10.91	12.22
Buffalo	16,523	662	25.32	24.96	- .36	1.42
Burnett	9,261	881	8.49	10.51	+ 2.02	23.79
Calumet	16,889	317	53.87	53.28	- .59	1.10
Chippewa	32,000	1,002	28.33	31.94	+ 3.61	12.74
Clark	29,344	1,200	21.54	24.45	+ 2.91	13.57
Columbia	31,192	776	40.10	40.20	+ .10	.25
Crawford	16,926	557	31.03	50.39	+ 19.36	62.06
Dane	75,157	1,188	58.45	63.52	+ 5.07	8.54
Dodge	45,773	884	52.55	51.78	- .77	1.84
Door	19,631	454	38.73	43.24	+ 4.51	11.64
Douglas	43,499	1,319	27.55	32.98	+ 5.43	19.71
Dunn	26,074	844	29.67	30.89	+ 1.22	4.11
Eau Claire	33,519	620	51.12	54.06	+ 2.94	5.76
Florence	3,722	498	6.42	7.07	+ .65	10.12
Fond du Lac	50,825	720	66.10	70.59	+ 4.49	6.79
Forest	5,968	1,424	.98	4.19	+ 3.21	34.53
Grant	39,629	1,157	33.61	34.25	+ .64	1.90
Green	22,390	576	39.44	38.87	- .57	1.45
Green Lake	15,898	364	43.40	43.51	+ .11	.25
Iowa	22,971	763	30.29	30.11	- .18	.59

County.	Popula- tion in 1935.	Area in square miles.	Population per square mile.		Increase (+) or decrease (-).	
			1900.	1905.	Number.	Per cent.
Iron	6,559	786	8.42	8.35	- .07	.83
Jackson	17,579	578	17.86	17.97	+ .11	.61
Jefferson	34,293	548	65.84	62.58	- 1.26	1.97
Juneau	20,739	790	26.11	26.28	+ .17	.65
Kenosha	27,336	274	79.02	99.84	+ 20.82	26.33
Kewaunee	17,003	327	52.64	52.00	- .64	1.22
La Crosse	42,850	475	90.52	90.21	- .31	.34
Lafayette	20,277	634	33.06	31.98	- 1.08	3.27
Lansdale	15,738	855	14.08	18.41	+ 4.33	25.41
Lincoln	19,125	885	18.38	21.61	+ 3.23	17.51
Manitowish	44,796	560	71.63	75.93	+ 4.30	6.00
Marathon	50,249	1,532	26.28	32.80	+ 6.52	16.19
Marquette	83,730	1,396	22.08	24.16	+ 2.08	9.42
Marquette	10,974	451	23.90	24.38	+ .48	4.42
Milwaukee	363,721	228	1447.44	1563.27	+ 115.83	10.11
Monroe	29,263	915	10.71	31.98	+ 1.27	4.13
Oconto	24,540	1,080	19.35	22.74	+ 3.39	17.69
Oneida	11,234	828	9.66	13.56	+ 3.90	37.53
Outagamie	49,015	684	72.14	71.66	- .48	1.75
Ozaukee	17,476	126	72.40	77.83	+ 5.43	6.81
Pepin	7,569	298	33.21	31.80	- 1.41	4.52
Pierce	23,433	543	44.09	43.15	- .94	2.13
Polk	20,885	833	19.08	22.88	+ 3.80	17.80
Portage	30,661	800	36.85	36.58	- .27	4.69
Priest	12,353	1,241	7.34	9.95	+ 2.61	35.42
Racine	50,228	323	141.31	155.50	+ 14.19	10.04
Richland	19,345	576	33.82	38.59	+ 4.77	6.88
Rock	53,641	706	72.53	75.98	+ 3.45	4.75
Rusk	9,748	696	4.97	10.41	+ 5.44	111.47
St. Croix	26,716	711	37.73	37.58	- .15	.40
Sauk	32,845	820	40.25	40.05	- .20	.50
Sawyer	5,044	1,342	2.68	4.76	+ 1.08	40.80
Shawano	31,037	1,135	24.21	27.25	+ 3.14	12.97
Sheboygan	32,070	510	98.72	102.10	+ 3.38	3.42
Taylor	12,481	965	11.67	12.93	+ 1.26	10.80
Trempealeau	23,857	734	31.49	32.50	+ 1.01	3.21
Vernon	19,161	792	35.90	36.82	+ 1.02	2.85
Vilas	5,486	907	5.43	5.99	+ .56	10.31
Walworth	30,557	562	52.06	54.37	+ 2.31	4.44
Washburn	7,483	834	6.62	8.97	+ 2.35	35.49
Washington	23,476	423	55.76	55.50	- .26	.47
Waukesha	85,822	562	62.69	63.74	+ 1.05	1.67
Waupaca	33,467	749	42.21	44.68	+ 2.47	5.85
Waushara	17,643	639	25.00	27.61	+ 2.61	10.44
Winnebago	60,300	472	123.96	127.75	+ 3.79	3.55
Wood	30,380	785	32.65	36.70	+ 4.05	17.45
Total	2,228,949	54,450	38.00	40.94	+ 2.94	7.74



A PRICE COUNTY SHEEP RANCH, NORTHEAST OF PHILLIPS.

CHAPTER III.

WATER POWERS OF WISCONSIN.

The importance of water powers to a state so remote from coal mines as is Wisconsin is not likely to be overestimated. These powers are destined to exercise a wide influence on the development of the state. So far as is known not a single important river in the state has as yet been made to fully produce its available power. The low Fox river comes the nearest to this with a total of 31,898 actual horsepower, all produced in the 35 miles between Lake Winnebago and Green Bay. This large water power has caused this district to become an important paper and pulp manufacturing center. The Wisconsin, St. Croix and Chippewa rivers are each capable of producing power largely in excess of that yielded by the Fox river. The development of Wisconsin's water powers has been rapid, especially during the last fifteen years. During the decade ending in 1900 the gain was 75 per cent. The following statistics show this growth during the last thirty years:

WISCONSIN WATER POWERS DEVELOPED.

1870.....	33,700 horsepower.
1880.....	45,300 horsepower.
1890.....	56,700 horsepower.
1900.....	99,0000 horsepower.

The annual saving represented by this power over the cost of an equivalent amount of steam power, computed at \$20 per horsepower, reaches the sum of nearly \$2,000,000.

The abundant water-power resources of this state, and Wisconsin has more water powers than any other state in the

Union, are the result of its peculiar topography. Stretching across the northern part of the state there is a broad and flat highland, varying in elevation from 1,000 feet in the west to 1,900 feet in the east, and extending to within thirty miles of Lake Superior. In this plain most of the important streams find their headwaters, and descend rapidly to the west and southward, making many rapid falls and giving extensive water powers.

The St. Croix, Chippewa, Black and Wisconsin rivers drain 70 per cent of the northern half of the state, an area nearly as large as the state of Maine. The Lake Superior rivers drain only 9.3 per cent and those flowing into Green Bay the remaining 20.7 per cent.

In general, each of the important rivers may be divided into three divisions, differing widely in physical characteristics. First, the headwaters, marked by sluggish streams with low divides, fed by numerous and extensive swamps and lakes, frequently so interlaced that it is impossible to trace out the river divides. Here many of the lakes have dam sites forming natural reservoirs for the river below. Boulder rapids are here of frequent occurrence. Second, a stretch of maximum descent along the center reach of the river, abounding in numerous falls and long stretches of rapids. Third, the lower portion of the course, where for a distance of about fifty miles the river flows through sandstone and limestone, the descent being very slight. This region is, therefore, devoid of water power. In fact, the United States Government has improved the larger rivers along this reach for the purpose of navigation without the use of locks.

The general use and control of those northern rivers for logging purposes in the past tended to decrease the value of the water powers by withholding the water at times when most needed, but this use of rivers is now practically past. Railroad transportation has taken the place of river logging in all the leading river valleys, thus leaving the rivers free for the development of their water powers. The effect which these dams have had upon the stage of water in the past suggests their extension and systematic operation for the sole purpose of regulating the water supply and increasing the low water flow.

The United States engineers have surveyed thirty-two large

reservoirs in Wisconsin and have constructed five such reservoirs in Minnesota. The total capacities of the proposed Wisconsin reservoirs are as follows:

STORAGE CAPACITY OF PROPOSED WISCONSIN RESERVOIR.

River.	Acres of over-flow land.	Storage capacity. Cubic f. et.
St. Croix	102,092	34,331,000,000
Chippewa	not given.	25,29,000,000
Wisconsin	25,832	18,557,000,000
Total		79,130,000,000

When it is remembered that nature has provided numerous large swamps and over 1,400 lakes in this region, the addition of the above large reservoirs and the maintenance of some of the logging dams, will have a very marked effect in steadying the river discharge.

The present availability of these water powers varies greatly on the different rivers or on parts of the same river. Those on the Wisconsin river are all reached by the Chicago, Milwaukee & St. Paul Railway which parallels the river for 100 miles and by other railways at different points. While the Chicago & Northwestern R. R., the Wisconsin Central R. R., the Green Bay & Western R. R. and the Minneapolis, St. Paul & Sault Ste. Marie R. R. touch the river at one or more points. The powers on the lower Chippewa are reached by the Chicago, Milwaukee & St. Paul, the Wisconsin Central and the Chicago, St. Paul, Minneapolis & Omaha Railways. The powers long the St. Croix and its tributaries are not so available owing to the small population, but with the recent rapid occupation of the land for agricultural purposes there will be a strong demand for better railroad facilities.

The following tables show the profiles of some of the leading water power streams in the state:

STATION.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
	From Menasha	Between points.		Total.	Per mile.
	Miles.	Miles.	Feet.	Feet.	Feet.
Menasha dam, crest.....	0.0		746.1		
Appleton upper lock, crest.....	5.1	5.1	736.5	9.6	1.9
Appleton locks foot	6.3	1.2	699.7	26.8	30.6
Cedars lock, crest,	9.6	3.3	699.7	.0	.0
Little Chute locks:					
Crest	10.6	1.0	690.0	9.7	9.7
Foot	11.6	1.0	653.8	36.2	36.2
Grand Kaukauna locks:					
Crest	13.3	1.7	653.8	.0	.0
Foot	14.2	.9	603.3	50.5	56.1
Rapids Croche lock:					
Crest	17.9	3.7	603.3	.0	.0
Foot	17.9	.25	593.9	9.4	37.6
Little Kaukauna lock:					
Crest	23.9	6.0	593.9	.0	.0
Foot	23.9	.2	517.7	6.2	31.0
Depere lock:					
Crest	29.8	5.9	587.7	.0	.0
Foot	29.8	.0	580.0	7.7	
Green Bay	35.2	5.4	580.0	.0	

* From United States engineer's profile of the river.

In this distance of 35 miles there is developed approximately 32,000 horsepower and there are opportunities for increasing this considerably. The extremely low rate at which water power may be rented (\$5 to \$10 per annum per horsepower) has already made this one of the largest manufacturing districts in the state.

No.	STATION.	DISTANCE.		Elevation above sea level.	DESCENT BE- TWEEN POINTS.	
		From mouth.	Between points.		Total.	Per mile.
		Miles.	Miles.	Feet	Feet.	Feet.
1.	Mouth of river			580.0		
2.	Dam No. 1, foot	2.0	2.0	580.0		
3.	Dam No. 2, foot	2.5	.5	537.0	7.0	14.0
4.	Dam No. 3, foot	2.75	.25	594.0	7.0	28.0
5.	Schapples rapids, foot	7.7	5.0	612.0	18.0	3.6
6.	Schapples rapids, head	8.7	1.0	622.0	10.0	10.0
7.	Grand Rapids, foot (mouth of Little Cedar River)	22.0	13.3	649.0	27.0	2.0
8.	Grand Rapids, head (N. W. ¼ Sec. 32, T. 34 N., R. 23 E.) ..	24.5	2.5	669.0	20.0	8.0
9.	Railroad crossing, Ross	26.5	2.0	671.8	2.8	1.4
10.	White Rapids, foot (lot 1, Sec. 30, T. 35 N., R. 21 E.)	50.7	24.2	683.4	11.6	48.0
11.	White Rapids, head (south line, Sec. 7, T. 35 N., R. 22 E.)	53.7	3.0	714.4	31.0	103.0
12.	Pemena Rapids, foot mouth (Pemena Creek)	61.5	7.8	749.3	30.3	3.9
13.	Pemena Rapids, head (south line Sec. 5, T. 36 N., R. 22 E.)	63.0	1.5	767.1	18.8	12.5
14.	Pemena Dam foot	67.0	4.0	773.1	6.0	15.0
15.	Pemena Dam, crest	67.6	.6	716.2	13.1	28.2
16.	Sturgeon Falls, foot	77.0	9.5	803.9	17.7	1.9
17.	Sturgeon Falls, head	77.5	.5	816.8	12.9	25.8
18.	Sturgeon River, mouth	78.1	.6	818.0	1.2	2.0
19.	Norway, Mich. (where public road joins river)	80.1	2.0	824.0	6.0	3.0
20.	Iron Mountain, Mich. (500 feet above old ferry)	84.1	4.0	851.0	27.0	6.7
21.	Little Quinnesec Falls, foot...	85.4	1.3	878.0	27.0	20.7
22.	Little Quinnesec Falls, head...	85.65	.25	942.0	64.0	256.0
23.	Big Quinnesec Falls, foot...	89.9	4.25	966.0	24.0	6.6
24.	Railroad bridge south of Iron Mountain	91.15	1.25	1,020.0	54.0	42.3
25.	Highway bridge south of Iron Mountain	92.4	1.25	1,045.0	25.0	20.0
26.	Railroad bridge, river siding...	100.4	8.0	1,065.3	20.3	2.5
27.	Twin Falls (500 feet below lower rapids)	101.4	1.0	1,072.5	7.2	7.2
28.	Twin Falls (head of upper rapids)	102.1	.7	1,099.8	27.3	3.9

* Authority: No. 1, U. S. Lake Survey; Nos. 2-6, Menominee River Boom Company; Nos. 7, 8, and 10-18, T. W. Orhlson; No. 9, Wisconsin and Michigan Railway; Nos. 19-27, U. S. Geol. Survey; No. 28, Chicago and Northwestern Ry.

The following table shows the estimated monthly discharge of the Menominee river near Iron Mountain, Michigan, from September, 1902, to December, 1905.

(DRAINAGE AREA, 2,415 SQUARE MILES.)

DATE.	DISCHARGE.			RUN-OFF.	
	Maxi- mum.	Min- imum.	Mean.	Per square mile.	Depth.
1902	Sec. feet	Sec. feet	Sec. feet	Sec. feet	Inchas.
September (4-30)	1,772	1,032	1,295	.536	.538
October	2,625	1,094	1,556	.661	.762
November	5,306	1,806	2,829	1.17	1.30
December	2,647	1,282	1,909	.790	.911
1903.					
April	6,780	1,705	5,175	2.39	2.14
May	11,560	4,698	7,496	3.57	3.10
June	8,020	1,540	3,417	1.57	1.41
July	6,670	1,806	3,563	1.70	1.47
August	7,630	2,467	4,049	1.94	1.68
September	10,650	2,575	5,091	2.35	2.11
October	6,130	2,719	4,067	1.94	1.68
November	3,669	6,874	2,505	1.16	1.04
December	2,719	1,705	2,150	1.03	.890
1904.*					
April	8,150	2,683	3,995	1.64	1.65
May	11,770	3,630	7,873	3.70	3.56
June	8,419	2,575	4,791	3.21	1.98
July	3,396	1,094	2,196	1.05	.909
August	3,242	1,032	2,125	1.01	.850
September	3,669	1,410	2,488	1.15	1.03
October	6,725	1,940	3,650	1.74	1.51
November	3,691	1,378	2,293	1.06	.949
December	2,199	1,672	1,838	.877	.761
1905.*					
April	7,140	4,265	5,282	2.19	2.44
May	9,250	2,593	6,810	2.82	3.25
June	9,250	1,806	5,011	2.07	2.31
July	7,140	1,573	3,850	1.59	1.43
August	3,090	1,540	2,170	.882	1.02
September	6,450	2,080	3,284	1.36	1.52
October	2,611	1,772	2,163	.896	1.03
November	2,432	1,410	2,204	.913	1.02
December	2,539	1,378	2,085	.863	.995

* Ice conditions January, February, and March. No estimate made.

The Menominee river, which is formed by the junction of the Michigamme and Brule rivers, is for a distance of 104 miles the northwestern boundary of the state. Its drainage basin has an area of approximately 4,000 square miles. The Michigamme river has its source within 12 miles of Lake Superior. This secures for it the advantage of the heavy rainfall of that region and, owing to the enlarged drainage area, serves to steady the flow. The Menominee river descends 700 feet in its total length, while its Wisconsin tributaries descend 300 feet and those in Michigan about 470. There is an im-

mense amount of water power awaiting development, remarkably fine opportunities being afforded by the frequent concentration of descent in rapids along the river course.

The valley of the Menominee river has had a comparatively rapid development. During recent years extensive lumber industries have been established and several large paper and pulp mills have been erected. Many rich and valuable iron mines have been opened and the acreage devoted to agriculture is rapidly increasing. This rapid development has resulted in extensive railroad building so that this region is now furnished with transportation facilities by the Chicago & Northwestern; the Chicago, Milwaukee & St. Paul; the Minneapolis, St. Paul & Sault Ste. Marie; and the Michigan & Wisconsin railroads. All of these lines cross the Menominee river one or more times and several are near enough to run short spur tracks to the desirable water-power sites.

The most important tributaries of the Menominee river in Wisconsin are the Brule and Pine rivers. The Brule river has five vertical falls but throughout its entire length of 42 miles it has a series of rapids or "strong water."

The following table shows a profile of the Brule river:

PROFILE OF BRULE RIVER, WISCONSIN, FROM ITS MOUTH TO SEC. 23,
T. 41 N., R. 14 E.*

No.	STATION.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Total	Per mile.
		Miles.	Miles.	Feet.	Feet	Feet.
1.	Brule, Wis. (C. & N. W. bridge)	7.0	.....	1,260	.....	.....
2.	½ mile below section line 22-23, T. 41 N., R. 15 E.	24.0	17.0	1,411	151	8.8
3.	Center of bend E. ¼ stake, Sec. 31, T. 41 N., R. 15 E.	29.5	5.4	1,431	20	3.7
4.	¼ mile west of east line, Sec. 24, T. 41 N., R. 14 E.	31.6	2.1	1,468	37	18.0
5.	0.4 mile below dam. Noted be- low	33.1	1.5	1,490	22	14.6
6.	Above dam 800 feet east of ¼ post, Sec. 22-23, T. 41 N. R. 14 E.	33.5	.4	1,507	17	42.5
7.	¼ mile east of section line 22- 23, T. 41 N., R. 14 E.	35.5	2.0	1,520	13	6.5

* Authority: No. 1, Chicago and Northwestern Railway; Nos. 2-7, U. S. Geol. Survey.

The Pine river has a total length of 53 miles and drains an area of 586 square miles. In regard to this river the Tenth Census says that in the first half mile from its mouth the current is very rapid; in the next twelve or thirteen miles the fall is comparatively slight; and that in the next three miles there are two falls of eight feet, each 1,000 feet apart, half a mile of strong water, succeeded by another fall of twelve feet and then, half a mile above, a fall of forty feet.

The Peshtigo river flows through Marinette county and has a length of approximately 140 miles. It has a descent of an average of nearly ten feet to the mile, but few of its powers have as yet been developed, owing to the small population of this region. There are some excellent power sites with splendid opportunities for the construction of immense reservoirs. The following table shows the profile of this river:

PROFILE OF PESHTIGO RIVER FROM ITS MOUTH TO NEAR CRANDON.¹

Station.	Elevation * above sea level.	Distance from mouth.	Authority.
	Miles.	Feet.	
Mouth of river.....	.....	581.3	United States engineers.
Peshtigo	18	594.7	Wisconsin & Michigan Ry.
do	18	619.7	Chicago & Northwestern Ry.
West of Ellis Junction. .	48	658.0	do
Near North Crandon.....	140	1,620.0	Minneapolis, St. Paul & Sault Ste. Marie Ry.

¹ Authority: L. S. Smith; U. S. Geol. Survey.

The Oconto river has its source in a number of lakes and swamps at an elevation of 1,530 feet above the sea. It is 87 miles in length in which distance it descends 945 feet. About two-thirds of its total fall is in the upper thirty-five miles of its course. The most important water powers are found in the last thirty-three miles of its course in which distance the river descends 190 feet. The following table shows the profile of the river:

PROFILE OF OCONTO RIVER, WISCONSIN, FROM ITS MOUTH TO WABENA.*

No.	STATION.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Total.	Per mile.
		Miles.	Miles.	Feet.	Feet	Feet
1.	Chicago and Northwestern Railway bridge, Oconto	2	.....	581	.....	.....
2.	Chicago, Milwaukee and St. Paul Railway bridge, Oconto	7	5	590	9	1.8
3.	Stiles	13	6	614	24	4.0
3.	Underhill	33	20	770	156	7.3
5.	Surlings	44	11	791	21	1.9
6.	One mile south of mountain	60	16	916	125	7.8
7.	Two miles south of mountain	63	3	941	25	8.3
8.	Wabena	87	24	1,526	535	24.3

* Authority: Nos. 1 and 4-8, Chicago and Northwestern Railway; Nos. 2 and 3, Chicago, Milwaukee and St. Paul Railway. L. S. Smith; U. S. Geol Survey.

The following table shows the location and extent of the most important developed and undeveloped water powers on the Oconto river:

WATER POWERS ON OCONTO RIVER.

No.	Location.	Estimated head.*	H. P. installed.	Use.
Developed powers.		Feet.		
1	Stiles, Sec. 34, T. 28 N., R. 20 E.	11	500	Saw and pulp mill.
2	Oconto Falls, Sec. 25, T. 28 N., R. 19 E.	37	1,370	Paper and pulp mill.
3	Oconto Falls, Sec. 26, T. 28 N., R. 19 E.	19	940	Pulp mill.
4	Pulifer, Sec. 6, T. 27 N., R. 18 E.	12	45	Flouring mill and driving.
5	Sec. 25, T. 31 N., R. 16 E.	12	.....	Driving only.
6	Sec. 4, T. 31 N., R. 16 E.	10	.....	"
7	Sec. 23, T. 32 N., R. 16 E.	10	.....	"
8	Sec. 20, T. 33 N., R. 17 E.	12	.....	"
9	Sec. 5, T. 33 N., R. 16 E.	10	.....	"
10	Sec. 1, T. 33 N., R. 15 E.	10	.....	"
11	Sec. 11, T. 32 N., R. 16 E.	10	.....	"
12	Sec. 34, T. 33 N., R. 16 E.	10	.....	"
13	Sec. 20, T. 33 N., R. 16 E.	10	.....	"
14	Sec. 27, T. 33 N., R. 15 E.	12	.....	"
15	Sec. 18, T. 31 N., R. 17 E.	10	.....	"
16	Sec. 33, T. 32 N., R. 17 E.	10	.....	"
17	Sec. 21, T. 32 N., R. 17 E.	10	.....	"
18	Sec. 23, T. 30 N., R. 16 E.	10	.....	"
19	Sec. 16, T. 30 N., R. 16 E.	6	.....	"
Undeveloped powers.				
20	Oconto, Sec. 23, T. 28 N., R. 21 E.	12	.....
21	Oconto Falls, Sec. 31, T. 28 N., R. 20 E.	40	.....
22	Sec. 34, T. 28 N., R. 18 E.	15	.....
23	Sec. 23, T. 31 N., R. 16 E.	20	.....

* The first four heads are reported by owners; the remainder are estimated by Mr. W. A. Holt, of the Holt Lumber Co., Oconto.

The Wisconsin river, because of its length, drainage area and central location is the principal power stream of the state. This river finds its source in a series of lakes and swamps in the plateau region of the northern part of the state. Its extreme source is in Lake Vieux Desert, a body of water with an area of about 10 square miles, located on the Michigan-Wisconsin state line at an elevation of 1,650 feet above the sea. The drainage basin includes 12,280 square miles, with an average width of 50 miles and a length of 225 miles.

This river offers many excellent opportunities for the construction of dams to serve as reservoirs in addition to their power value. The land adjoining the river can be purchased very cheaply and is owned by a comparatively small number of persons or corporations. Many such dams have already been constructed for logging purposes which will undoubtedly be maintained for their regulative effect upon the water flow long after their value to the logging industry has ceased. Sixteen lakes near the headwaters of this river have such logging dams regulating their flow and United States engineers have surveyed sites for the construction of dams at the outlet of eight lakes having an aggregate area of 87.45 square miles, a watershed area of 1,410.5 square miles and a capacity of 19,556,985,291 cubic feet. It is estimated that these reservoirs will maintain a flow of 3,000 second-feet for three months of the year, nearly doubling the present low-water flow of the river and its resulting water power and will serve to a large extent to reduce the dangers from high floods.

The following table shows the profile of the Wisconsin river:

PROFILE OF WISCONSIN RIVER FROM ITS MOUTH TO LAKE VIEUX DESERT.*

No.	STATION.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Total.	Per mile.
		Miles.	Miles.	Feet.	Feet.	Feet.
1.	Mouth of river			604.0		
2.	Sauk City	90.0	90.0	746.0	142.0	1.5
3.	Merrimac	102.0	12.0	764.0	18.0	1.5
4.	Portage	118.0	16.0	790.0	26.0	1.63
5.	Killbourn, Railroad bridge	138.0	20.0	814.0	24.0	1.2
6.	Sec. 36, T. 15 N., R. 5 E., north line	147.0	9.0	833.0	19.0	2.1
7.	Peterwell bridge, opposite Necedah	174.0	27.0	875.3	42.3	1.57
8.	Nekoosa dam:					
9.	Below	208.0	34.0	918.9	43.6	1.28
10.	Above			936.6	17.7	
11.	Port Edwards dam:					
12.	Below	212.5	4.5	938.5	1.9	.4
13.	Above			956.5	17.0	
14.	South Centrailla dam:					
15.	Below	214.0	1.5	957.3	1.8	1.2
16.	Above			969.3	12.0	
17.	Grand Rapids dam:					
18.	Below	216.5	2.5	979.8	10.5	4.2
19.	Above			1,002.0	22.2	
20.	Biron dam:					
21.	Below	220.5	4.0	1,005.5	3.5	.9
22.	Above			1,016.3	10.8	
23.	Lower paper mill south of Stevens Point					
24.	Below	233.0	12.5	1,032.4	16.1	1.3
25.	Above			1,044.0	11.6	
26.	Upper paper mill south of Stevens Point					
27.	Below	233.5	.5	1,045.5	1.5	3.0
28.	Above			1,058.8	13.3	
29.	Stevens Point, Wisconsin Central bridge	236.0	2.5	1,063.8	4.0	1.6
30.	Sec. 23, T. 24 N., R. 7 E.	240.0	4.0	1,075.8	13.0	3.2
31.	Knowlton bridge, Chicago, Milwaukee & St. Paul Ry.	257.0	17.0	1,092.2	19.4	.97
32.	Sec. 8, T. 26 N., R. 7 E.	260.5	3.5	1,097.4	5.2	1.5
33.	Sec. 31, T. 27 N., R. 7 E., south line	264.5	4.0	1,104.0	6.6	1.65
34.	Mosinee rapids, foot, Sec. 29, T. 27 N., R. 7 E., south line	266.0	2.0	1,106.8	1.8	.9
35.	Mosinee dam, above	266.5	.5	1,124.6	18.8	37.6
36.	Black Creek, mouth of	270.5	4.0	1,125.9	1.3	.3
37.	Cedar Creek, mouth of	274.0	3.5	1,130.6	4.7	1.24
38.	Eau Claire River, mouth of	279.0	5.0	1,134.6	8.0	1.6
39.	Rib River, mouth of	280.5	1.5	1,142.8	4.2	2.8
40.	Lower Wausau bridge	283.0	2.5	1,151.0	8.2	3.3
41.	Wausau dam:					
42.	Below	283.5	.5	1,171.0	20.0	40.0
43.	Above			1,177.7	6.7	
44.	Brokaw dam:					
45.	Foot	289.0	5.5	1,182.7	5.0	.9
46.	Crest			1,194.7	12.0	
47.	Pine River, mouth	298.0	9.0	1,212.7	18.0	2.0
48.	Merrill					
49.	Lindore dam, foot	304.0	6.0	1,214.7	2.0	.28
50.	Lindore dam, crest			1,277.7	13.0	
51.	Upper dam, crest	315.0	1.0	1,278.7	6.0	6.0
52.	Bill Cross rapids, foot	314.0	9.0	1,245.7	12.0	1.3
53.	Grandfather rapids, foot	318.0	4.0	1,272.2	26.5	6.6
54.	1.5 miles above, head	319.5	1.5	1,361.7	89.5	6.0
55.	Grandmother rapids, foot	321.2	1.7	1,370.7	9.0	5.3

PROFILE OF WISCONSIN RIVER FROM ITS MOUTH TO LAKE VIEUX
DESERT.—Continued.

No.	STATION.	DISTANCE.		Elevation. above sea level.	DESCENT BE- TWEEN POINTS.	
		From Mouth.	Between points.		Total.	Per mile.
		miles.	Miles.	Feet.	Feet.	Feet.
46.	Gilbert station	326.7	5.5	1,409.7	39.0	7.1
	Tomahawk dam:					
47.	Foot	328.7	2.0	1,412.7	3.0	1.5
48.	Crest			1,425.7	13.0	
49.	Nigger Island	344.7	16.0	1,449.4	23.7	1.48
50.	Whirlpool rapids, head	346.7	2.0	1,464.8	15.4	7.7
51.	Hat rapids, foot	351.7	5.0	1,477.4	12.6	2.5
	Rhineland dam:					
52.	Foot	357.7	6.0	1,523.2	45.8	7.6
53.	Crest			1,553.2	30.0	
54.	Otter rapids, head	392.7	35.0	1,570.7	17.5	.5
55.	Sec. 30, T. 41 N., R. 10 E.	402.7	10.0	1,592.7	22.0	2.2
56.	Sec. 6, T. 41 N., R. 10 E.	416.7	14.0	1,644.0	61.3	3.66
57.	Lake, Vieux Desert	429.0	12.3	1,650.0	6.0	.5

* L. S. Smith U. S. Geological Survey.

The following table shows the discharge measurements of the Wisconsin River near Necedah, Wis., in 1902, 1903, 1904 and 1905.

DISCHARGE MEASUREMENTS OF WISCONSIN RIVER NEAR NECEDAH,
WIS., IN 1902, 1903, 1904 AND 1905.*

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	D's- charge.
		Feet.	Square feet.	Feet per second.	Feet.	Second- feet.
1902.						
December 2.....	L. R. Stockman				4.90	3.875.
December 23.....	L. R. Stockman				5.40	3,534.
1903.						
January 13†.....	L. R. Stockman	280	2,617	1.18	5.65	2,840.
February 5†.....	L. R. Stockman	284	2,360	1.26	5.80	2,585.
March 5†.....	L. R. Stockman	284	2,411	1.09	5.80	2,422.
March 26.....	Johnson & Stockman		5,405	3.94	11.05	21,280.
April 2.....	L. R. Stockman	220	4,206	2.42	7.55	10,190.
April 28.....	L. R. Stockman	309	8,860	1.84	6.50	7,128.
June 12.....	L. R. Stockman	281	3,282	1.79	6.00	5,888.
July 7.....	L. R. Stockman	316	4,708	4.43	10.50	20,860.
August 19.....	L. R. Stockman	302	2,832	2.46	6.20	6,962.
September 4.....	L. R. Stockman	276	2,463	2.05	5.80	5,047.
October 12.....	L. R. Stockman	314	3,871	3.23	9.43	12,500.
1904.						
January 12†.....	E. Johnson, jr.	286	2,031	1.33	4.60	3,000.
May 11.....	E. Johnson, jr.	317	4,685	3.65	9.60	17,110.
May 23.....	Johnson & Hanna	314	3,717	2.67	7.05	9,921.
July 16.....	E. Johnson, jr.	294	3,525	1.66	5.80	5,845.
September 21.....	E. Johnson, jr.	294	1,823	2.08	4.92	3,860.
October 14.....	F. W. Hanna	449	6,216	5.71	13.55	34,420.
1905.						
April 4.....	S. K. Clapp		5,777	5.07	12.33	29,290
May 25.....	S. K. Clapp	317	4,437	3.23	7.69	13,359.
June 12.....	M. L. Brennon	457	6,017	4.90	12.69	30,050.
August 9.....	M. L. Brennon	314	3,846	2.4	6.85	9,268

*L. S. Smith; U. S. Geol. Survey. †Frozen. ‡Add to this discharge 3,000 second-feet overflow.

During the first 138 miles from its mouth, the Wisconsin river is entirely devoid of power sites. The first power is found at the Kilbourn Dells where a 15 foot dam is being erected for the generation of electrical power to be transmitted to Madison and other cities. For the next 70 miles the descent is so evenly distributed that no power sites are found until at Nekoosa. In the next $8\frac{1}{2}$ miles above Nekoosa, the river has a descent of 83 feet, nearly all of which is improved by five dams used to furnish power for paper and pulp mills. The first of these dams at Nekoosa develops 4,560 actual horsepower for every twenty-four hours per day. Four and one-half miles further upstream at Port Edwards, 3,860 actual horsepower is developed. Two miles further upstream, there is a dam developing 1,460 horsepower. At Grand Rapids, the dam of the Consolidated Paper & Power Co., furnishes 6,500 horsepower with room for turbines to develop an additional 1,000 horsepower. Four miles above Grand Rapids a dam develops 3,063 horsepower. In the next thirteen miles to Stevens Point there is a fall of 16 feet and only one rapids, the power at which is largely developed by the use of splash boards on the dam below.

In the city of Stevens Point and just south of it, are three developed powers and one undeveloped. One of these dams is located just below the mouth of the Plover river, and develops 1,370 horsepower. One-half mile above this point another dam develops 4,660 horsepower. Above this dam there is an undeveloped power of about seven foot head and owned by the Wisconsin River Paper & Pulp Co. The third dam is located within the Stevens Point city limits and has a head of seven feet. Only three turbines of 140 horsepower have been installed. By building a new dam 1,000 feet below the present one, a head of twelve feet could be obtained, and being located in a city of 9,022 population, offers cheap power to additional factories.

In the next nineteen miles there is a descent of thirty feet, but only one opportunity for power development, namely at Battle Island. Owing to the high banks a dam could be built economically with a head of twenty feet. One of the best and most developed powers on the river is at Mosinee and is owned by the Joseph Dessert Lumber Co. Many years ago a logging dam was maintained here but at

present no use is made of the power. An effort is being made to induce capital to develop the power to its utmost capacity requiring a dam which could develop a head of 20 7 feet by flooding a small marsh above.

In the next eighteen miles to Wausau the river descends 28 feet. Most of this fall is concentrated in rapids at Rothschilds. A dam could be constructed here which would develop a head of nearly twenty feet but it would have to be a long structure. At Wausau, only a portion of the valuable water power has been developed. There is a long granite island in the center of the stream at this point. At the head of the island, 296 horsepower is developed under a head of $7\frac{1}{2}$ feet but more power could be developed. About 1,000 feet below this dam, a saw mill and a planing mill have installed turbines rated at 1,200 horsepower and operating under heads of nine and eleven feet respectively. A short distance further is located the power site of the Wausau Paper Mills Co., which develops 3,600 horsepower under an average head of fourteen feet. The Wausau Electric Co. has installed turbines rated at 700 horsepower but this can be doubled.

In the twenty miles from Wausau to Merrill the river descends 35 feet. The only portion of this fall at present developed is by a dam at Brokaw where 3,964 horsepower is obtained. Four miles above Brokaw there is an excellent power site where a dam could develop a head of 18 or 20 feet. The banks are over 30 feet high, the river bed is rock, and the channel is 600 feet wide.

There are two dams at Merrill. The first dam develops nearly 2,900 horsepower under a head of fourteen feet. The second dam, which is used for logging purposes only, develops a head of eight feet. A similar dam with an eight foot head and also used for logging purposes, is located about two miles above. These dams are at present of little use, and a company is now being formed to improve these two powers by constructing a new dam with a head of 24 feet.

The next dam above Merrill is at Bill Cross Rapids where a head of 20 or 24 feet could be obtained. About ten miles above Merrill are located the Grandfather Rapids, the largest water power on the river. These rapids extend a distance of one and a half miles, with a descent of nearly 90 feet. The cheapest method of developing this power would be by the con-

struction of three dams of 30 foot each. In the 53 mile stretch between Merrill and Rhinelander, the descent is 277 feet, developing several excellent powers in addition to the above. About one and a half miles above Grandfather Rapids, there are some rapids where a dam of 8.9 feet would back the water to the foot of Grandfather Rapids. Between Tomahawk and Grandmother Rapids the river descends 41 feet, a considerable portion of which is concentrated in a distance of forty rods. Thirty-nine feet could be developed here.

The Tomahawk dam under 13.2 foot head has an installation of 650 horsepower. In the ten miles from the backwater of this dam, the river has an even descent of $23\frac{1}{2}$ feet, 20 feet of which could be developed by one or two dams. North of Tomahawk and extending to the Lincoln county line are the Whirlpool Rapids, where in a distance of two miles the river descends 15.4 feet. Between these rapids and the foot of Hat Rapids, there is a descent of nearly thirteen feet. A dam at the foot of Nigger Island seven miles east of Tomahawk would develop a head of 28 feet. Between the mouth of the Pelican river and the foot of the Hat Rapids, the river descends 22 feet. A dam to develop this power is being constructed with a head of 20.3 feet, the power to be transmitted by electricity to Rhinelander. In the 35 miles from the foot of the dam of the Rhinelander Paper & Pulp Co., the river descends 79.2 feet. This dam develops a head of 30 feet and has installed turbines rated at 3,000 actual horsepower.

Above this point opportunities for developing large powers are few. There are several comparatively small rapids but on the whole the descent is uniform. At Rainbow Rapids a dam could be constructed to develop from six to ten feet. At Otter Rapids there is an old logging dam developing a head of ten feet, but as the rapids descend sixteen feet, a head of this height could be developed.

The principal tributaries of the Wisconsin river are the following: Pelican, Tomahawk, Rib, Eau Claire, Eau Pleine, Yellow, Lemonweir, Baraboo and Kickapoo. Only the last three have as yet been largely developed, but the rapid settlement of the northern regions is creating a strong demand for water powers. In many cases, because of the ease with which they can be developed and controlled, manufacturers often prefer these small powers to the greater ones on the Wisconsin river.

The Black river rises at an elevation of 1,400 feet above the sea level and after a winding course of 140 miles empties into the Mississippi at La Crosse. This river drains a long and narrow watershed, the lower one-third of whose drainage area is a level sandstone region, so that the maximum watershed available for power purposes, at Black River Falls, is only 1,570 square miles. The total descent of the river is 772 feet.

The following tables show the river profile and the discharge measurements.

PROFILE OF BLACK RIVER FROM ITS MOUTH NEAR LA CROSSE TO NEAR WITHEE.*

No.	STATION.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Total.	Per mile.
		Miles.	Miles.	Feet.	Feet.	Feet.
1.	La Crosse (near)			628		
	Black River Falls:					
2.	Below dam	55.0	55.0	749	121	2.2
3.	Above dam	55.0	.0	763	14	.....
4.	Chicago, St. Paul, Minneapolis and Omaha Railroad bridge	58.0	3.0	766	3	1.0
5.	Halls Creek, mouth of	61.6	3.6	776	10	2.8
6.	Halcyon	67.0	5.4	793	17	3.1
7.	Hatfield railroad bridge	71.2	4.2	833	45	10.4
8.	East Forks, mouth of	74.2	3.0	846	8	2.7
9.	Dells dam, below	77.5	3.3	874	28	8.5
10.	Wedges Creek, mouth of	78.5	1.0	893	19	19.0
11.	Cunningham Creek, mouth of	84.8	6.3	909	16	2.5
12.	Center Sec. 22, T. 24 N., R. 2 W.	86.8	2.0	929	20	10.0
13.	O'Neill Creek, Nellisville	9.3	4.0	989	60	15.0
14.	Bridge, Secs. 9 and 16, T. 25 N., R. 2 W.	98.3	8.0	1,034	45	5.6
15.	Bridge, Secs. 21 and 28, T. 27 N., R. 2 W.	103.5	4.7	1,070	36	7.0
16.	Bridge, Fairchild and Northern Ry.	107.8	4.3	1,094	24	5.6
17.	Site New Glenwood dam	109.3	1.5	1,106	11	7.3
18.	Between Secs. 27 and 28, T. 27 N., R. 2 W.	110.3	1.0	1,107	2	2.0
19.	Hemlock dam, 600 feet below	113.5	3.2	1,132	25	8.0
20.	Hemlock dam, above	113.6	.1	1,151	19	.....
21.	Bridge, Secs. 20 and 28, T. 29 N., R. 2 W.	119.6	6.0	1,167	16	2.7
22.	Bridge Wisconsin Central Ry., west of Withee	125.1	5.5	1,187	20	3.6

*Authority: No. 1 (low-water elevation), Mississippi River Commission; 2 to 22, Joint Survey of Wis. Geol. and Nat. Hist. Survey and United States Geological Survey; Water-Supply and Irrigation Paper No. 156, L. S. Smith.

DISCHARGE MEASUREMENTS OF BLACK RIVER AT NEILLSVILLE,
WIS., IN 1905.*

Date.	Hydrographer,	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Feet per second.	Feet.	Second-feet.
April 7	Hanna and Clapp	192	1,021	3.5	7.7	3,279
May 24	S. K. Clapp	185	471	2.18	4.95	1,024
June 14	M. S. Brennon	192	915	3.15	7.26	2,978
July 11	M. S. Brennon	181	392	1.56	4.25	612
Aug. 11	M. S. Brennon	151	242	.98	3.3	225
Sept 25	F. W. Hanna	163	419	1.86	4.35	780

*U. S Geol. Survey. Water-Supply and Irrigation Paper No. 156.

In the forty miles above Black River Falls the river has worn a channel, the banks of which range from ten to sixty feet in height. The descent in this distance is 337 feet, or nearly 9 feet to the mile. There are many excellent power sites in this stretch, nearly all of which are so situated as to be cheaply developed.

At Black River Falls a dam develops 345 horsepower. This dam which has a head of 16 feet could be improved to develop a head of 20 feet. About $11\frac{1}{2}$ miles below this dam there is a site where a head of seven feet could be developed. Between Black River Falls and Neillsville, owing to the high banks and descent of the river, dams of 15 to 20 feet head could be built every two or three miles. The first dam above Black River Falls is just below the Chicago, St. Paul, Minneapolis and Omaha R. R. bridge, where a head of 30 feet could be developed. Another similar power is located at Halcyon where a 30 foot dam would back the water for three miles. An even better site is available at Hatfield where a head of 50 feet could be obtained which by means of a long canal could be increased to 85 feet. Near the mouth of Wedges Creek a dam could develop a head of 25 feet. In the six miles below Neillsville the river descends 80 feet, 42 feet of which can be developed at Ross Eddy Rapids. About $11\frac{1}{2}$ miles above Neillsville there is a site where in the course of a mile the river descends 21.2 feet. A dam at this place with a crest of 18 feet, by using a canal 600 feet long, would develop a head of 24 feet. A developed power on the upper river, the Hemlock Dam, under a head of twelve feet operates four turbines of 175 horsepower. The branches of the Black River, on account

of their rapid descent, furnish a water power of from 10 to 20 feet at frequent intervals.

The Chippewa River and its tributaries drain an area of 9,573 square miles, of which area 6,000 square miles include the most unsettled portion of Wisconsin and containing its richest forests of timber, both hardwood and pine. The Chippewa drainage system has its source in over a hundred lakes and many swamps near the Michigan boundary, and only twenty miles from Lake Superior. About 112 miles from its mouth at Lake Pepin, the Chippewa river divides, the western branch, the Chippewa, rising south of Lake Superior, and the eastern branch, the Flambeau, having its source near the Michigan line at an elevation of 1,600 feet above the sea. The Flambeau drains 1,983 square miles and the Chippewa, above the junction, drains 1,777 square miles.

The following tables show the profile of the Chippewa River and its discharge measurements:

PROFILE OF CHIPPEWA RIVER FROM ITS MOUTH TO SOURCES OF EAST AND WEST BRANCHES.*—Continued.

No.	STATION.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Total.	Per mile.
		Miles.	Miles	Feet.	Feet.	Feet.
33.	Blaisdells Lake	170.7	2.5	1,374.5	5.7	2.3
	Cedar rapids:					
34.	Foot	173.2	2.5	1,404.0	29.5	11.8
35.	Head	175.7	2.5	1,420.0	16.0	6.4
36.	Bear Lake	178.2	2.5	1,432.9	12.9	5.1
37.	River, water level	194.7	3.5	1,442.0	9.1	2.6
38.	Pellenn Lake	186.7	5.0	1,462.0	20.0	4.0
39.	River, water level, Sec. 19, T. 42 N., R. 2 W.	190.2	3.5	1,462.8	1.8	.5
40.	Glidden Station	201.7	11.5	1,509.3	45.5	4.0
41.	Source of river	223.7	22.0			
	West Branch.					
42.	Proposed U. S. dam	164.5	1.8	1,286.0	6.0	3.3
43.	Pakawang Lake	168.7	6.0	1,287.2	1.2	.2
	Moose Lake:					
44.	Proposed U. S. dam	178.7	10.0	1,358.8	71.6	1.2
45.	Water level	178.7	.0	1,361.9	3.1	
46.	Partridge Crop Lake	185.7	7.0	1,384.4	22.5	3.2
47.	Source of river	205.7	20.0			

* Authority: Nos. 1. Mississippi River Commission; 2-47, U. S. Geol. Survey; 28, David Kirk; 29-47 U. S. Engineers. U. S. Geol. Survey; Water-Supply and Irrigation Paper No. 136.

† High water.

‡ Low water.

DISCHARGE MEASUREMENTS OF CHIPPEWA RIVER AT HIGHWAY BRIDGE, SHAWTOWN, NEAR EAU CLAIRE, WIS., 1904 AND 1905.*

Date.	Hydrographer.	Width	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Feet per second.	Feet.	Second-feet.
1904.						
Jan. 11	E. Johnson, Jr.	310	2,429	.99	3.80	2,451
May 14	E. Johnson, Jr.	385	4,272	3.42	8.40	11,610
May 24	Johnson and Hanna.	370	4,074	3.10	7.60	12,630
June 7	E. Johnson, Jr.	426	5,815	4.52	11.25	26,270
July 13	E. Johnson, Jr.	354	3,770	2.10	6.55	7,918
Aug. 28	E. Johnson, Jr.	322	2,766	.82	4.20	2,274
Sept. 19	E. Johnson, Jr.	329	3,122	1.47	5.25	4,581
Oct. 12	F. W. Hanna	495	7,118	5.43	14.80	38,680
Oct. 13	F. W. Hanna	457	6,137	4.76	13.10	29,200
Nov. 29	E. Johnson, Jr.	324	2,847	.80	4.41	2,231
1905.						
May 23	S. K. Clapp	200	4,001	3.66	8.80	16,110
June 14	M. S. Brennan	427	5,131	3.83	10.72	19,665
July 12	M. S. Brennan	355	3,585	2.09	6.53	7,489
Aug. 12	M. S. Brennan	335	3,062	1.29	5.00	3,948

* U. S. Geol. Survey. Water-Supply and Irrigation. Paper No. 156.

† Frozen.

The first dam site on the Chippewa river is located $2\frac{1}{2}$ miles below the mouth of Eau Claire river where a head of seven feet could be obtained, which on account of its proximity to the city of Eau Claire has special value. Two miles above Eau Claire is located the dam of the Dells Paper and Pulp Co., which has a head of 26 feet and could be increased to 32 feet. The turbine installation is 8,246 horsepower. The next dam is at Chippewa Falls where a head of 30 feet is developed and which can be made several feet higher. At Point Creek, $2\frac{1}{2}$ miles above the Chippewa Falls dam, there is a water power where a head of 14 feet could be obtained and the dam could be very economically constructed, material for construction being abundant. At Eagle Rapids, $4\frac{1}{2}$ miles further upstream, there is a site for a 20 foot dam. One mile above the mouth of O'Neills Creek, a 25 foot dam would develop 5,000 theoretical horsepower.

The best opportunity for power development on the Chippewa river is at Jim Falls. A 28 foot dam is being constructed here, which, by means of a long canal, will develop a head of 55 feet. Another excellent site and one which can be cheaply developed is at Burnett Falls. A 35 foot dam could be erected here. The next power is located at Helcombe where an old timber dam develops a head of 17 feet. This dam is

decaying and should be replaced by a new 18 foot dam and another 15 foot dam at Little Falls. Between Holcombe and the mouth of the Flambeau the river descends 14 feet, 10 feet of which is concentrated in the first mile below the latter point. A dam could be constructed to develop 15 foot head.

All the powers on Chippewa river are reached by one or more railroads and consequently will soon be developed. The importance of this series of powers is emphasized by the following statement from the United States Geological Survey bulletin on Wisconsin Water powers: "Of the 244 feet descent in the Chippewa between Chippewa Falls and the mouth of the Flambeau, 116 feet are concentrated in five falls and rapids. The building of ten dams would economically develop a total of 213 feet head in this distance of 43 miles. When fully developed these powers will rival in importance the extensive developments on lower Fox River between Appleton and Green Bay."

The principal tributaries of the Chippewa are the Flambeau, the Red Cedar, the Yellow, the Jump and the East and West Branches of the Chippewa. On all of these rivers there are excellent sites which can be reasonably developed and have immense reservoir areas.

The Flambeau River is the largest tributary and flows through unlimited quantities of pulp-wood which mark this river as a center for the manufacture of paper and pulp. Railroad facilities are at present lacking but several of the large railway systems are near and can easily extend their lines. This river has its source in a large number of lakes at an altitude of 960 feet above the sea, and descends 570 feet in a distance of 150 miles, much of the descent is concentrated in numerous falls and rapids.

The following tables show the profile of the river and its discharge measurements:

PROFILE OF FLAMBEAU RIVER FROM ITS MOUTH TO BOULDER LAKE.*

No.	Station	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Total.	Per mile.
		Miles.	Miles	Feet.	Feet.	Feet.
1.	Mouth of river	0.0	.....	1,060.0	.....	.....
2.	SW. $\frac{1}{4}$ Sec. 34, T. 34 N., R. 7 W.	7.0	7.0	1,064.0	14.0	2.0
3.	Ducommun rapids, NW. $\frac{1}{4}$ Sec. 23, T. 34 N., R. 7 W.	11.0	4.0	1,070.0	6.0	1.5
4.	New dam, foot of rapids	15.0	4.0	1,081.0	11.0	2.7
5.	SW. $\frac{1}{4}$ Sec. 1, T. 34 N., R. 6 W.	15.75	.75	1,083.4	7.4	10.0
6.	Ladysmith, below dam	24.25	8.5	1,099.0	10.6	1.25
7.	Ladysmith, above dam	24.25	0.0	1,115.3	16.3	.....
8.	NW. $\frac{1}{4}$ Sec. 25, T. 35 N., R. 6 W.	28.0	3.75	1,115.4	.1	.....
9.	Little Falls, foot of	32.0	4.0	1,131.4	16.0	4.0
10.	Little Falls, head of (Sec. 21, T. 35 N., R. 5 W.	32.8	.8	1,147.4	16.0	20.0
11.	NE. $\frac{1}{4}$ Sec. 15, T. 35 N., R. 5 W.	36.8	4.0	1,166.7	19.3	4.8
12.	Big Falls, foot of NW. $\frac{1}{4}$ Sec. 2, T. 35 N., R. 5 W.	40.3	3.5	1,177.0	10.3	*3.0
13.	NW. $\frac{1}{4}$ Sec. 8, T. 39 N., R. 1 W.	86.2	45.9	1,421.8	244.8	5.3
14.	South line, Sec. 33, T. 40 N., R. 1 W.	91.2	5.0	1,429.6	7.8	1.5
16.	Below dam, Sec. 25, T. 40 N., R. 1 W., west line of	95.0	54.7	1,454.0	.....	.....
17.	Above dam	95.0	0.0	1,470.0	.....	.....
18.	Park Falls, railroad bridge, west line, Sec. 24, T. 40 N., R. 1 W.	96.6	1.6	1,470.0	.....	.....
19.	Below tail race upper dam, Park Falls	99.3	.5	1,466.8	2.8	5.6
20.	Above upper dam, Park Falls..	98.5	.2	1,481.0	14.2	.....
21.	Backwater, upper dam	104.3	5.8	1,482.5	1.5	.2
22.	Center Sec. 28, T. 41 N., R. 1 E.	107.1	2.8	1,499.2	16.7	6.0
23.	Sec. 12, T. 41 N., R. 1 E. W. $\frac{1}{4}$ stake	112.5	5.4	1,510.8	11.6	2.0
24.	Sec. 4, T. 41 N., R. 2 E., W. $\frac{1}{4}$ stake	115.8	3.3	1,516.0	6.2	1.8
25.	Turtle River, mouth.....	119.0	3.2	1,541.4	25.4	7.6
26.	Manitowish River, junction of Bear Creek	134.0	15.0	1,568.0	26.6	1.8
27.	Rest Lake, mouth of (Sec. 8, T. 42 N., R. 5 E.	146.0	12.0	1,587.0	19.0	1.6
28.	Island Lake, inlet of	153.5	7.5	1,592.0	5.0	.66
29.	Boulder Lake	163.0	9.5	1,625.0	33.0	3.5

* Authority: Nos. 1-26, U. S. Geol. Survey; 27-30, U. S. Engineers. Because of an error in the assigned elevation of the initial bench mark, 15 feet is added to the U. S. Engineer elevation to correct to sea level datum.

DISCHARGE MEASUREMENTS OF FLAMBEAU RIVER NEAR LADYSMITH,
WIS., FOR 1904 AND 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Feet per second.	Feet.	Second-feet.
1904.						
May 16.....	E. Johnson, jr.....	350	1,333	3.15	17.88	4,201
June 3.....	E. Johnson, jr.....	350	1,448	2.99	17.45	4,321
August 29.....	E. Johnson, jr.....	349	733	2.07	16.06	1,517
September 20.....	E. Johnson, jr.....	343	702	2.21	16.01	1,554
October 12.....	F. W. Hanna.....	364	1,633	3.37	18.58	5,588
1905.						
April 8.....	S. K. Clapp.....	129	1,537	3.49	18.27	5,367
May 23.....	S. K. Clapp.....	357	1,292	2.69	17.60	3,474
June 14.....	M. S. Brennan.....	354	1,232	2.67	17.35	3,288
July 12.....	M. S. Brennan.....	353	1,015	2.54	16.80	2,576
August 12.....	M. S. Brennan.....	315	623	1.84	15.66	1,144
September 23.....	F. W. Hanna.....	353	1,404	3.02	17.75	4,236

U. S. Geol. Survey; Water-Supply and Irrigation Paper No. 156.

In the 19 miles between the mouth of the river and Ladysmith, the river descends 42 feet. Six miles below Ladysmith there is a developed power with a head of 16 feet. In the 70 miles above Ladysmith there are no developed powers but the descent of 353 feet in that distance insures many undeveloped powers. At Little Falls a 15 foot dam would give a head of 25 feet and at Big Falls, a 25 foot dam together with a canal about five-eighths mile long would develop a head of 60 feet. At Park Falls there are two dams each of 16 foot head. At one there is a turbine installation of 1,300 horsepower while at the other the installation is 1,100 horsepower. Above Park Falls there are several falls of from 20 to 25 feet insuring excellent water powers.

The Red Cedar River has a descent of 470 feet in its length of 90 miles, giving opportunity for many water powers. The drainage area is 1,957 square miles. The following table shows the profile of the river:

PROFILE OF RED CEDAR RIVER FROM ITS MOUTH TO RED CEDAR LAKE.*

No.	Station.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Total.	Per mile.
		Miles.	Miles.	Feet.	Feet.	Feet.
1.	Mouth of river .....	.0		705.0		
2.	Dunnville	2.0	2.0	734.4	18.4	9.2
	Downsville dam:					
3.	Foot	7.8	5.8	739.0	15.6	2.7
4.	Crest	17.8	.0	758.2	19.2	
5.	Irving	13.0	5.2	766.4	8.2	
	Menomonie dam:					3.1
6.	Foot	16.6	3.6	788.3	21.9	
7.	Crest	16.6	.0	803.9	15.6	
8.	"Omaha" bridge	19.9	2.3	806.7	2.8	
	Cedar Rapids dam:					8.0
9.	Foot	23.4	4.5	823.3	16.6	3.7
10.	Crest	23.4	.0	842.0	18.7	
						5.3
11.	Hay River, mouth	30.2	6.8	859.3	17.3	
12.	Colfax	35.0	4.8	895.0	35.7	7.4
13.	Cameron (2 miles west)	70.0	35.0	1,068.0	173.0	5.0
14.	Railroad crossing	74.0	4.0	1,116.0	48.0	12.0
15.	Cedar Lake dam, Sec. 22, T. 37 N., R. 10 W.	90.0	16.0	1,191.0	75.0	4.7
16.	Dam in Sec. 26, T. 37 N., R. 10 W.	96.0	6.0			

* Authority: No. 1, Chicago, Milwaukee and St. Paul Railway; 2-11, O'Keef & Orbison, Appleton, Wis.; 12, Wisconsin Central Railway; 13, Minneapolis, St. Paul, and Sault Ste. Marie Railway; 14 and 15, Chicago, St. Paul, Minneapolis and Omaha Railway.

In the first thirty miles above the river mouth, six powers could be developed. These powers are as follows: a dam with a head of 15.6 feet at Dunnville would develop 1,685 horsepower; raising the present dam at Dunnville four feet would give a head of 23.2 feet and an estimated 2,480 horsepower; the construction of a dam at Irving with a head of 21.9 feet would give 2,260 horsepower; raising the present dam at Menomonie 2.8 feet would give 1,800 horsepower; a new dam 2.8 miles above Menomonie would yield 1,700 horsepower; and raising the present dam at Cedar Rapids 21.3 feet, giving a total head of 40 feet, would give 3,800 horsepower. The Wisconsin Power Co., of Chicago has recently acquired a large number of water powers on this river, ranging from 7 to 19 feet. Owing to the fact that these powers are located in a well settled region and accessible by one or more railroads, their development at an early date is certain.

On the Eau Claire river there are many power opportunities. Near the river mouth there is a dam with a head of 11 feet. About one-half mile further upstream another dam develops a head of 13½ feet. There are a number of logging dams with heads ranging from 7 to 20 feet but the power thus developed is not utilized.

The Jump river has a descent of 500 feet in its length of 65 miles. At one place the river falls 35 feet and there are many other sites where dams would develop heads of from 15 to 20 feet. All these powers are undeveloped.

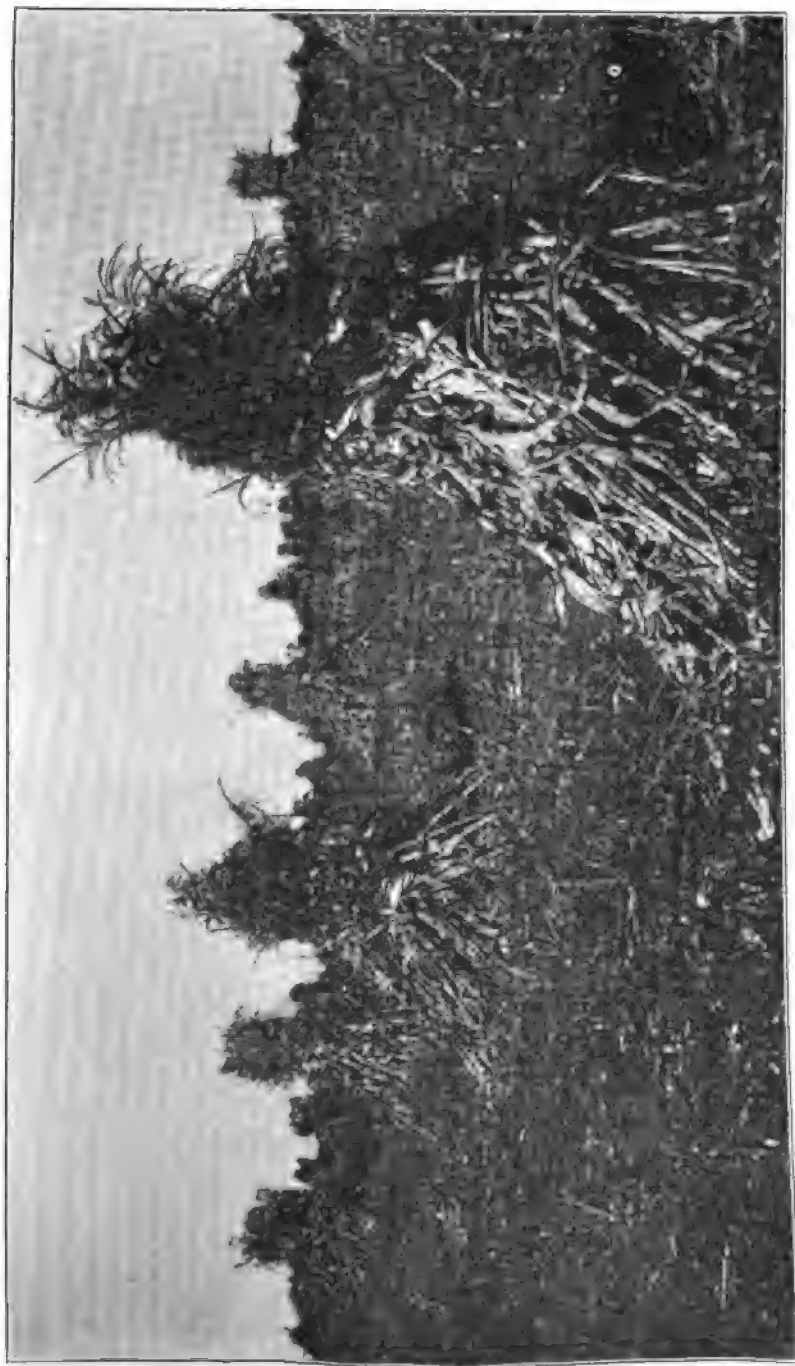
The Chippewa river has many other tributaries, which because of their high banks and rapid currents afford many water powers that can be developed at a small cost.

The St. Croix river has its source in St. Croix Lake at an elevation of 1,010 feet, and only twenty miles from Lake Superior. In its total length of 168 miles it descends 344 feet, all but 20 feet of which is in the upper 116 miles. The total drainage area is 7,576 square miles. The following tables show the river profile and its discharge measurements:

PROFILE OF ST. CROIX RIVER FROM ITS MOUTH TO ST. CROIX LAKE.

No.	Station.	DISTANCE.		Elevation above sea level.	DESCENT BETWEEN POINTS.	
		From mouth.	Between points.		Per mile.	Total.
		Miles.	Miles.	Feet.	Feet.	Feet.
	Prescott, mouth of river.....	0.0		*667.0		
	Kinnikinnic River, mouth.....	5.0	5.0	668.0	1.0	0.2
	Apple River, mouth.....	28.0	23.0	672.0	4.0	.2
	Osceola.....	42.0	14.0	683.0	11.0	.8
	St. Croix Falls, (head of navigation).....	48.0	6.0	687.0	4.0	.7
	Trade River, mouth.....	60.0	12.0	753.0	6.6	5.5
	Sunrise River, mouth.....	65.0	5.0	758.5	5.5	1.1
	Rush City, ferry.....	75.0	10.0	773.0	14.5	1.4
	Sec. 35, T. 28 N., R. 20 W.	79.0	4.0	772.0	9.0	2.2
	Snake River, mouth.....	86.0	7.0	790.0	8.0	1.1
	Kettle River, rapids, foot.....	89.0	3.0	801.0	11.0	3.7
	Kettle River, mouth.....	90.0	1.0	816.0	15.0	15.0
	Kettle River, rapids, head (proposed U. S. dam, Sec. 2, T. 39 N., R. 19 W.).....	93.0	3.0	850.0	34.0	11.3
	Clam River, mouth.....	101.0	8.0	864.0	18.0	2.2
	Sec. 1, T. 40 N., R. 18 W.	108.5	2.5	874.0	6.0	2.4
	Yellow River, mouth.....	115.0	11.5	888.0	14.0	1.2
	Namekagon River, mouth.....	127.0	12.0	908.0	20.0	1.7
	Moose River, mouth.....	129.0	12.0	1,001.0	93.0	7.7
	Sec. 35, T. 44 N., R. 13 W.:					
	Below dam.....	144.0	5.0	1,001.5	.5	.1
	Above dam.....	144.0	.0	1,006.3	3.8	.....
	St. Croix Lake.....	160.0	16.0	1,010.0	4.7	.3

* Low-water elevation.



PRICE COUNTY CORN.

DISCHARGE MEASTREMENTS OF ST. CROIX RIVER NEAR ST. CROIX FALLS,
WIS., 1903.*

Date.	Hydrographer.	Gage height.	Discharge.
1903.		est.	Second-feet.
May 22	E. Johnson, Jr.	4.00	10,747
August 11	W. R. Hoag	2.70	7,470
October 5	L. R. Stockham	3.91	10,244

* U. S. Geol. Survey—Water-Supply and Irrigation Paper No. 156.

Below Taylor Falls there are few good dam sites on this river, but above this place excellent undeveloped powers are numerous. In the twelve miles from the mouth of the Namekagon to the Yellow river, the total fall is 20 feet concentrated largely in several rapids making excellent power sites. The St. Croix rapids afford fine opportunities, there being a fall of 55 feet in six miles. With the yearly average flow, a dam under a head of 40 feet which is practicable here, would develop 23,021 theoretical horsepower. The Kettle river rapids are next to the St. Croix rapids, the most prominent on the river. They extend for four miles during which there is a descent of 49 feet. Several dams could be built here. Above the mouth of the Kettle river, a head of ten feet would develop 1,280 theoretical horsepower with the ordinary low-water flow, and below the entrance of the Kettle river 1,737 theoretical horsepower under the same conditions of flow. Between the Snake river and St. Croix rapids there are the following rapids: the Otter Slide, the ordinary low-water power of which under a head of ten feet is 2,140 theoretical horsepower; the Horse Race rapids; the Baltimore rapids, the ordinary low-water power of which under a head of ten feet is 2,220 theoretical horsepower; the Upper Big Rock rapids, and the Yellow Pine rapids. There are many other opportunities for power development on the St. Croix River.

The leading tributaries of the St. Croix are the Yellow, Clam, Eau Claire, Apple, and Namekagon rivers.

The Yellow river has a descent of 197 feet in its length of 50 miles, the gradient being such that rapids occur at frequent intervals. The flow is very constant. Near the mouth of the river a dam with a head of 25 feet could be constructed.

Another dam could be erected a mile above Yellow Lake which would develop a head of twenty feet. The river profile shows several places where the descent is from 8 to 10 feet per mile. There are four important logging dams on this river ranging from 7.5 to 18 feet head.

The Apple river drains 427 square miles, having its source in a large number of lakes which increase its summer flow and steady the discharge. There are many good power sites on this river, some of which have been developed for manufacturing purposes or for electric lighting but most of them are still undeveloped. There are a large number of old logging dams with heads of from 6 to 20 feet, but they are in poor condition.

On the Willow river, owing to its rapid descent of 213 feet in 35 miles, there are many fine power opportunities. There are at least nine such powers of over ten feet head, at one place it being possible to construct a dam with a head of 71 feet, which by means of a canal could be increased to a head of 105 feet.

The Clam river drains an area of 416 square miles and has a total descent of 350 feet in its length of 50 miles, offering several good power opportunities. At one place, owing to a series of rapids, several dams can be constructed quite near together developing heads of from 20 to 35 feet each, or a single dam and a canal would develop a head of 100 feet. At Clam Falls a dam with a 34 foot head could be erected.

On the Namekagon river, 4 miles from the mouth, a head of 20 feet could be developed, and 1,000 horsepower produced. A power dam has been erected at Hayward to be used for electric lighting and develops 200 horsepower. There are many stretches in this river where the descent is from 8 to over 10 feet per mile.

On the Totogatic river, which descends 350 feet in 55 miles, there are many logging dams and several other good power sites. The Osceola Creek and the Kinnikinnic river furnish a large number of small water powers. The descent of these rivers is very rapid.

The Wisconsin rivers belonging to the Lake Superior drainage system rarely exceed 30 miles in length and owing to their descent of from 400 to 1,000 feet within this distance are exceedingly rapid, alternating between small streams and tor-

rential rivers. Reservoir construction is especially valuable in this part of the state to conserve the rainfall and thus to equalize the flow.

One of the finest water powers in the northwest is on the St. Louis river and is at present being developed. This river in a distance of six miles descends 456 feet in a series of rapids and falls. A steel gravity dam 36 feet high has been constructed at Thompson which stores the water in a reservoir one square mile in area from which the water is lead through a canal $2\frac{1}{2}$ miles in length. The water is taken from the canal by iron pipes for a distance of one mile and delivered at the power house under a head of 365 feet. The capacity of the canal is sufficient to develop 100,000 horsepower. Turbines similar to those in use at Niagara Falls have been installed.

The Black river, a tributary of the Nemadji river, has an extremely rapid descent flowing over many high falls. At one place a head of 160 feet could be developed, producing 560 theoretical horsepower.

The Boise, Brule, White, Montreal, Gogoshungun, Maringouin and Bad rivers all have very steep gradients and offer power sites which will produce from 500 to 2,000 horsepower.

CHAPTER IV.

The purpose of this inquiry is set forth in the preface, and in the opening paragraph of the schedule (reprinted below) sent out to secretaries of various business men's organizations, editors of newspapers, city and village officials and others whose names had been mentioned as men interested in the upbuilding of their respective communities. This schedule, as printed in full below, was mailed to every incorporated village in the state and to every unincorporated village having a probable population of 300 or more, making a total of 589 cities and villages. Most of them responded to the first call while others required a second, and even a third call before any response was received, while from others no response could be obtained.

SCHEDULE.

Dear Sir:—

This bureau is endeavoring to make an investigation as to the industrial possibilities of Wisconsin from an agricultural, manufacturing and commercial point of view and we hope to be able to publish the results of such investigation in our next biennial report. Capital is continually on the lookout for opportunities for investment and should your locality offer favorable inducements in the way of raw material, shipping facilities, site donations, water power, etc., it may be the means of attracting some much needed industry which will afford employment for the unemployed, and add to the population and wealth of your community and to the state.

With this end in view, will you kindly co-operate with us in answering the following questions and return this blank at your earliest convenience.

- City or village of....., county of.....
1. How much land have you suitable for manufacturing or business purposes?..... How far is it located from the nearest railroad station?.....
 2. Have you a supply of water power?..... What is the estimated horse power not yet utilized?..... Kind of fuel used?..... From where obtained?.....
 3. Would your city (or village) furnish site in case new manufacturing were put in?..... Would your city (or village) offer any other inducements to secure new factories or other industries?.....
 4. Could a canning factory, should one be located in your city (or village), be supplied with such raw materials as fruit?..... vegetables?..... fish?..... any other?.....
 5. Can your city (or village) be supplied with clay, sand, peat, timber, iron, stone, zinc, lead, or other natural products?.....
 6. Can help be secured in your city (or village) or adjacent country?..... Number of men..... women..... young persons.....
 7. Give names of railroads in your city (or village), and state whether there are good facilities for the receipt and shipment of freight..... If not located on a railroad give name of, and distance to, nearest railroad.....
 8. What kind of business would, in your opinion, be best suited to your city (or village)?.....
 9. Have you a good water supply for household purposes?.... Manufacturing purposes?.....
 10. Is your city (or village) supplied with a gas plant?..... Electric light plant?..... Telephone system?.....
 11. Have you electric railways connecting your city (or village) with other cities or villages?.....
 12. Give number of banks located in your city (or village)..... Drug stores..... Groceries..... Hardwares..... Department stores..... Dry goods stores..... Laundries..... Number and kinds of other mercantile establishments, factories, etc.

13. If your village is not incorporated give estimated population.
.....
14. Are there any factories or workshops in your city (or village) that are idle—if so, state kind of business last carried on in each such factory or workshop and cause of idleness
.....
15. Give number and kinds of manufacturing industries once established in your city (or village) that have failed, and state reasons for such failure.....
.....
16. Give number of physicians....., lawyers....., teachers employed.....
17. Is your city (or village) a summer resort?..... If not, can it be made one?..... Give number and capacity of hotels..... Boarding houses Are you in need of a first-class hotel?.....
18. Is the country surrounding your city (or village) good for farming purposes?..... What portion of such farming lands suitable for crop raising is improved?
.....
19. Give character of the soil in the country surrounding your city (or village) stating what portion is rough..... level but stony....., swampy....., sandy level and free from stone.....
20. Give brief description of your city (or village) as to streets, shade trees, parks, public buildings, lakes, etc.
.....
.....

After receiving 486 replies to this schedule, another was mailed to the various registers of deeds relative to the prevailing prices of real estate in the various counties. Wisconsin annually loses a great many people in the hope that cheaper land can be secured in other states. The returns from these inquiries indicate that farm lands in this state are yet to be purchased at as low a price as in almost any state in the union, and when climate and fertility of the soil are considered, the opportunities for securing good, cheap homes in this state are perhaps not surpassed in the United States.

In all cities and villages reporting there was an abundance of land adjoining the railroad and well suited for factory locations. In many cities the land is so located as to admit of shipments over two railroads. Nearly all cities reported that they would grant free sites to secure the location of substantial business concerns. In some cities bounties and other inducements will be offered. In every city and village reporting there is an abundant supply of good water for both manufacturing and domestic purposes.

In the following pages the various counties are taken up alphabetically and discussed from the point of view of the soil, amount of improved and unimproved lands, prices of real estate, population, products, timber and other natural resources, dairying and other industries. Following the discussion of each county each city and village within the county is arranged alphabetically and treated according to the information obtained in the schedule sent out.

ADAMS COUNTY.

Adams county is located in the central part of the state on the Wisconsin river. The area is 682 square miles, with a population in 1905 of 9,062, of which number 7,702 were native born. The foreign element is mainly German and Norwegian. It is a purely agricultural county with no cities over 1,000 population. It is also the only county in the state having no railroad transportation. The farm area in 1905 was 306,849 acres, about 73% of the county, of which amount only 122,383 acres were improved land. These farms, together with improvements, were valued at \$4,852,373. In 1890 the farm area was 215,777 acres, which, including improvements was valued at \$2,237,930. The larger portion of the county presents the character of a level plain, which has a surface of loose sand, but showing many marshes, some of very large size, and occasionally prairies. Except on the marshes and on some of the small prairies, the plain is generally covered with a growth of stunted oaks, with some jack pine in the northern part. Away from the Wisconsin river the land rises to a considerable altitude, gradually to the north, but more rapid in the eastern direction. Dotting the plain and rising abruptly from its most level portions, are isolated mounds

and peaks of rocks several hundred feet in height. The soil is coarse, open in texture and very light, though not uniformly so. This light land is not well suited to general farming and must be turned to use along special rather than general lines. The land is not naturally adapted to grasses and grains, and only by means of irrigation can it be made remunerative along dairy lines. Potatoes and vegetables of excellent quality can be produced. Much of this land is well suited to sheep raising. The principal crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Hay	17,458	20,049
Corn	13,458	21,063
Oats	9,178	10,161
Rye	16,727	19,309
Wheat	2,923	1,390
Potatoes	2,003	9,624

There are three cheese factories and seven creameries in the county. The price of unimproved land ranges from \$5 to \$15 per acre, while for improved land the price ranges from \$20 to \$50 per acre. The county seat is Friendship. The population of the local political divisions for 1905 was as follows:

ADAMS COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPU- LATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Adams	155	314	335	649	649	.....	.....	16	113
Big Flats	109	282	243	525	525	.....	.....	5	88
Colburn	92	222	176	398	398	.....	.....	6	47
Dell Prairie	130	292	262	554	554	.....	.....	9	105
Easton	123	251	244	495	495	.....	.....	18	66
Jackson	121	294	275	569	569	.....	.....	12	107
Lincoln	113	282	264	546	546	.....	.....	5	107
Leola	80	203	161	364	364	.....	.....	3	72
Monroe	120	298	273	571	571	.....	.....	11	104
New Chester	82	188	180	368	368	.....	.....	7	68
New Haven	149	365	315	680	680	.....	.....	9	135
Preston	81	188	187	375	344	.....	31	4	68
Quincy	93	254	240	494	494	.....	.....	2	59
Richfield	93	241	202	443	443	.....	.....	6	63
Rome	118	302	239	541	541	.....	.....	4	82
Springville	128	299	254	553	547	6	.....	7	110
Strongs Prairie	187	507	430	937	933	.....	4	3	166
Total	1,974	4,782	4,280	9,062	9,021	6	35	127	1,599

FRIENDSHIP.

Village of Friendship, Adams Co. Population, 350. Located in the central part of Adams county, of which it is the county seat; 18 miles from Necedah, the nearest railway station and banking point; 120 miles from Milwaukee; 112 miles from La Crosse and 205 miles from Chicago. Has stage connections with Necedah, Coloma, Quincy and Kilbourn. Telephone system.

This village has 1 drug store, 1 grocery, 1 hardware and 1 dry goods store. Has a graded school employing 3 teachers; has 1 physician and 2 lawyers; 2 hotels able to accommodate 75 people, and 3 boarding houses. Has a grist mill and two weekly newspapers.

In this village there is a small undeveloped water power. Wood is used for fuel secured from adjacent country. A small amount of help could be secured in the vicinity. Vegetables could be supplied for a canning factory and the village can be supplied with clay, stone, sand and timber.

The country surrounding the village is suitable for farming. About 50% of the land is improved. The surface is mostly level and soil free from stone. A small portion is swampy and a large per cent is sandy.

ASHLAND COUNTY.

Ashland county is located in the northern part of the state on the shore of Lake Superior. The area is 930 square miles. The population in 1905 was 23,935, a gain of 3,759 since 1900. Nearly one-third of the population is foreign born, the principal nationalities represented and their order of importance are as follows: Germans, Canadians, Swedes and Norwegians. It contains vast areas from which the timber has been cleared but which have not yet been occupied for agricultural purposes. Only about 81,000 acres have been settled for farming, of which not over 20,000 acres are improved. The cash value of the farms with their improvements in 1905, was \$1,456,314. Nearly all of this improvement has been made since 1890, when there were only 3,684 acres of improved farm land in the county, valued at less than \$250,000. Covering the entire northern third of the county and all of the Apostle Islands, the soil is a red marly clay. In places this clay is mixed with enough sand to make it good for agricultural purposes, but generally it is purely clayey and tenacious and bakes so hard under the sun that it is not nearly so valuable as the land further south, and only by thorough work-

ing can it be made gradually available. In the central part of the county the soil is a loamy clay of an excellent quality generally free from stones supporting a heavy growth of hardwood. This soil is especially adapted to generally farming and is destined to support an important dairy stock-raising industry. In the southern part of this area there is considerable swamp and wet lands, covered by a growth of tamarack and cedar. In the southern part of the county the soil is a clayey loam with a more or less rolling surface so common in northern Wisconsin. This soil is well adapted to pasturage and sheep-raising. The staple products of the county are oats and hay, the acreage devoted to each being 2,000 and 9,574 acres respectfully. There are three cheese factories and two creameries in the county. For unimproved tillable land the price ranges from \$7.50 to \$15 per acre; and for improved land, from \$20 to \$35 per acre, the price depending upon the nature of the soil and its proximity to railroads and markets. A large part of the northern half of the county is occupied by the La Pointe Indian Reservation. Ashland is the principal city and county seat. The population of the local political units for 1905 was as follows:

ASHLAND COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Agenda	116	359	253	612	612	.....	.....	3	124
Ashland	146	411	342	753	737	.....	16	4	86
Ashland, city:									
ward 1	339	1,353	697	2,050	2,047	*3	.....	.....	.....
ward 2	318	811	745	1,556	1,556	.....	.....	.....	.....
ward 3	263	722	675	1,397	1,396	.....	1	.....	.....
ward 4	178	514	434	948	948	.....	.....	.....	.....
ward 5	222	780	549	1,329	1,329	.....	.....	.....	.....
ward 6	346	855	828	1,683	1,680	3	.....	.....	.....
ward 7	258	638	593	1,231	1,231	.....	.....	.....	.....
ward 8	217	692	616	1,308	1,304	.....	.....	.....	.....
ward 9	221	778	568	1,346	1,346	.....	.....	.....	.....
ward 10	319	934	737	1,671	1,671	.....	.....	.....	.....
Total, city, 14,519								35	3,774
Butternut	105	371	229	600	600	.....	.....	3	162
Butternut, village	137	369	338	707	707	.....	.....	4	145
Gordon	73	189	144	333	333	.....	.....	1	61
Jacobs	165	999	814	1,813	1,812	1	.....	2	374
La Pointe	51	105	78	183	142	.....	41	2	25
Morse	279	1,069	642	1,711	1,711	.....	.....	4	547
Sanborn	480	1,538	1,116	2,704	1,751	.....	.....	4	633
Total	4,238	13,537	10,398	23,935	22,917	7	1611	62	5,931

*3 Chinamen.

†Indians, not taxed.

ASHLAND.

County seat of Ashland county. Incorporated city; population, 14,519; Railroads, Northern Pacific; Wisconsin Central; Chicago & Northwestern; Chicago, St. Paul, Minneapolis & Omaha. Boat line to Washburn, Duluth, Bayfield and Chicago. Adams and National Express; telegraph and telephone; excellent freight and passenger facilities; six miles of street railway.

This city has six miles of paved streets. Twenty-five and one-half miles of water mains. Sewerage system. Lighted by electricity and gas. One academy, 30 pupils. 13 public schools, 2,000 pupils. 10 churches, Presbyterian, Congregational, Methodist, Catholic, Episcopal, Hebrew, Polish, Swedish, Norwegian. 4 weekly and 2 daily papers. Public library, 4,000 volumes. 5 public halls, seating capacity 3,000. 6 factories—stave, cigar, sash, door, and novelty works; 300 employes. 7 saw mills, 1,400 employes. 9 lumber yards, 3 implement dealers, 4 livery barns, 12 meat markets, 25 groceries, 6 blacksmiths, 10 jewelers, 25 lawyers, 7 drug stores, 3 banks, 3 coal yards, 8 hotels, 4 general stores, 3 bakeries, 10 dry goods stores, 5 flour and feed stores, 5 real estate dealers, 15 doctors, blast furnace, iron works, foundry, ore shipping docks. Surrounding country timber land. Prevailing nationality, Americans. Assessed valuation personal property, \$2,562,744. Assessed valuation real estate, \$5,101,743. Total tax levy for municipal purposes, 12 mills. All kinds of wood, iron ore and stone tributary. Opening for almost any manufacturing business using wood or iron.

BUTTERNUT.

Butternut, Ashland Co., Population, 707. An incorporated village located in the southern part of the county on the W. C. Ry., 43 miles from Ashland, the county seat; 124 miles from Superior, 194 miles from St. Paul and 295 miles from Milwaukee. National Express; telegraph and telephone connections. Good shipping facilities and passenger service.

The village has good streets, nice shade trees, a public park, a bank, drug store and five general stores, three hotels, three boarding houses, graded public school employing six teachers, two physicians, village hall, saw mills, a stave and heading mill, shingle mill, veneer factory, wagon and carriage shops and a creamery. A weekly newspaper is published.

Steam power is used. Wood is used for fuel obtained from the surrounding country. The village can be supplied with plenty of clay, sand, stone and timber from the adjacent country. Only a limited amount of help can be secured here as a great many are already employed. Good location for woodenware factory.



The surrounding country is suitable for agricultural purposes and about one-eighth of the land is improved farms. There is not much rough land but about 75 per cent is stony and 5 per cent swampy. The soil is fertile and responds quickly under cultivation.

GLIDDEN.

Glidden, Ashland Co. Population, 900. An unincorporated village located on the W. C. Ry., in the southern part of the county, 43 miles from Ashland, the county seat; 120 miles from Superior; 209 miles from St. Paul, and 300 miles from Milwaukee. Express National; has telegraph and telephone connections. Good shipping facilities and passenger service.

The village is a summer resort of some importance, has a fine public park, village hall, a bank, a drug store, six general merchandise and two hardware stores, one hotel, graded public school employing seven teachers, Catholic and Lutheran churches, two physicians, one lawyer, saw mill, veneer mill and a shingle mill. Two weekly newspapers are published.

Help can be secured in the village and adjacent country. Wood is used for fuel obtained from surrounding country. Coal can be had at the docks at Ashland or Superior. There is also an undeveloped water power estimated at 1,500-horse power, not utilized for manufacturing purposes. Such raw material as fruit and vegetables could be supplied for a canning factory. The natural products are clay, sand, peat, timber and stone. The village is in need of a first-class hotel and wood-working plant.

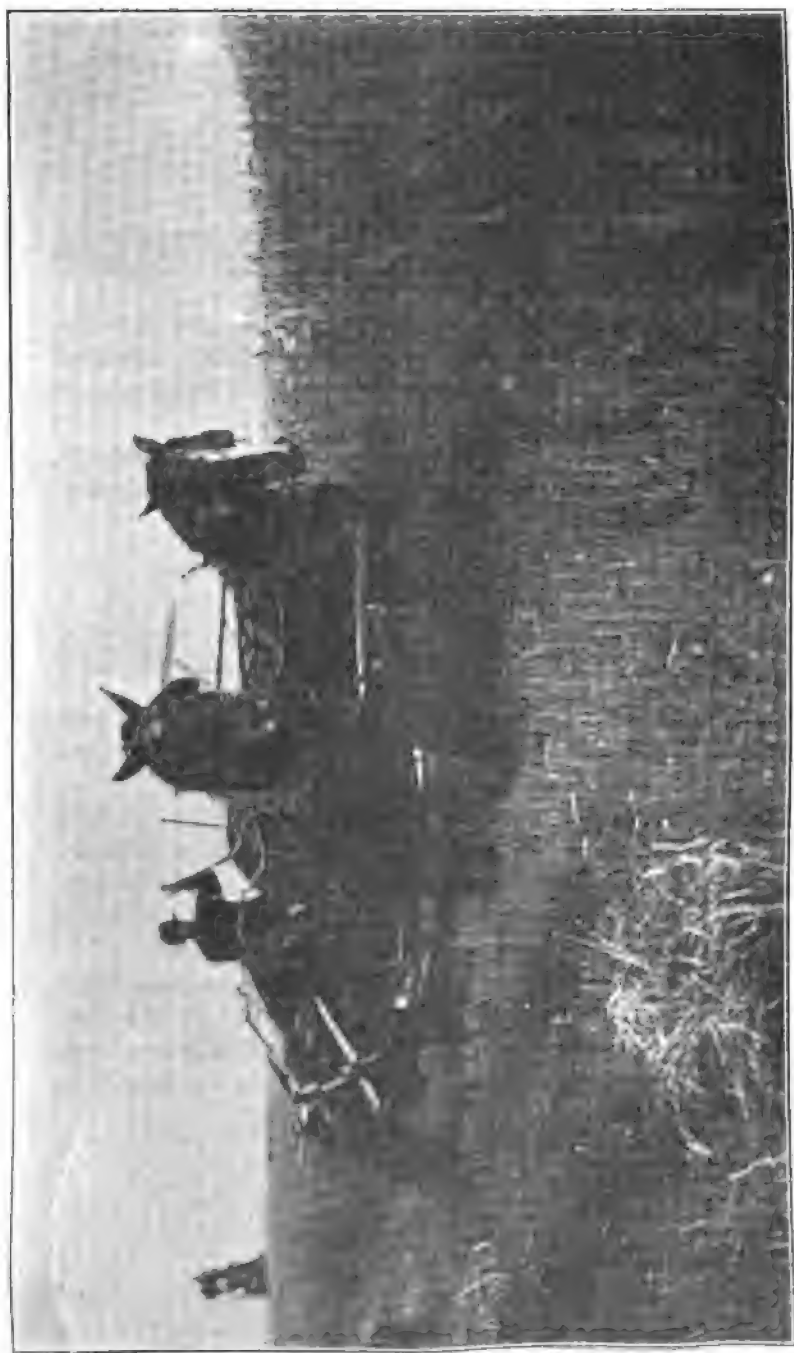
The country surrounding the village is suitable for farming purposes about 2,000 acres of land suitable for crop-raising is improved. The soil is a clayey loam, about one-half of the land is level and free from stone and the remainder rolling, stony and some sand.

HIGH BRIDGE.

High Bridge, Ashland Co. Population about 200. An unincorporated village located on the W. C. Ry., 18 miles from Ashland, the county seat and nearest banking point; 8 miles from Superior, and 328 miles from Milwaukee. National Express; telegraph and telephone connections. Good shipping facilities and passenger service.

The village is supplied with one general merchandise store, and a boarding house.

The village is in need of a creamery and saw mill and any number of men could be secured to work the entire year. Wood is used for fuel obtained from the adjacent country, and coal



ASHLAND COUNTY RYE.

from Ashland. There are no manufactories or workshops in the village. The village can be supplied with timber, clay, sand and stone. The surrounding country is adapted to farming and is about one-half developed.

SANBORN.

Sanborn, Ashland Co. Population, 150. An unincorporated village located on the D. S. E. & A. Ry., 12 miles from Ashland, the county seat and banking point, and 79 miles from Superior. Express, Western; telegraph and telephone connections. Good shipping facilities and train service.

The village is supplied with good water, three general stores, one hotel, and a public school. The land is all heavily timbered and saw mills are badly needed. Some help can be secured to work in mills and factories.

The country is suitable for farming and only a small per cent is improved. The timber on the land will pay for the improvements.

SHANAGOLDEN.

Shanagolden, Ashland Co. Population, 200. An unincorporated village located on a private railway, $3\frac{1}{2}$ miles from Glidden, the nearest shipping and banking point; 45 miles from Ashland, and 123 miles from Superior. Has telephone connections and stage daily to Glidden.

Has graded streets, good walks, electric light plant, one general store, a boarding house, and a public school employing two teachers.

Steam power is used. Wood is used for fuel obtained from the adjacent country. The village can be supplied with an abundance of timber and stone. No trouble to secure help here. Good location for a tannery or tan-bark extract factory, or wood-working establishment.

The surrounding country is good for farming purposes and a very small part of the land is improved. The soil is a clay loam, 10 per cent swamp and 80 per cent level and free from stone. Will be a good farming country when the timber is cleared away.



"SPECKLED TROUT ARE ABUNDANT IN THE STREAMS."

BARRON COUNTY.

Barron county is located in the northwestern part of the state. The area is 878 square miles. The population in 1905 was 23,376, a gain of 4,699 over 1900. One-fourth of the population is of foreign birth, Norwegians and Germans being in the majority. It is essentially an agricultural county, with vast areas of cut-over lands, amounting to about 40 per cent of the county, still unsettled. About 352,000 acres are being used for farming.

of which amount 136,332 acres are improved land; as against 207,384 acres used for farming and 64,618 acres improved land in 1890. The value of these farms in 1905, with improvements, was \$7,204,247 as compared with \$2,273,930 in 1890. The soil in the southern part of the county is a sandy loam which extends up into the north central part where it changes into a clayey loam. This soil is easily worked because of its coarse grain and is excellently adapted to the raising of potatoes and market gardening. It has many of the characteristics of the soil of Waupaca and Portage counties. The soil in the northern and northeastern parts is a clayey loam of a fine texture and heavy to work. The surface is hilly and in places quite stony but not to such an extent as to interfere permanently with the tillage. It furnishes excellent grazing lands for sheep farming, this being especially true in the region of Rice Lake. In the western part of the county the soil is a loamy clay, ranking among the best soils in the northern part of the state and unsurpassed for general farming, dairying and stock raising. The county is well drained by numerous streams. There are some small lakes and but few swamps. The chief crops together with the amount of land devoted to each in 1890 and 1905, were approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Hay	31,092	53,809
Potatoes	1,852	6,075
Wheat	2,174	3,073
Corn	2,991	3,242
Oats	11,966	31,574
Barley	93	3,502

An increasing interest is annually displayed in the raising of sugar beets. In 1905 there were within the county 41 cheese factories and 20 creameries. The price of wild and unimproved land which can be made tillable ranges from \$10 to \$20 per acre; improved land ranges from \$25 to \$65 per acre, depending upon location. Barron is the county seat. The population of the cities, towns and villages for 1905 was as follows:

BARRON COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Almena	168	493	436	929	929	.....	.....	7	137
Arland	164	431	368	799	799	.....	.....	1	151
Barron	168	494	415	909	909	.....	.....	7	154
Barron, city:									
ward 1	52	157	123	280	280	.....	.....	.....	.....
ward 2	162	315	352	667	666	*1	.....	.....	.....
ward 3	98	200	216	416	416	.....	.....	.....	.....
ward 4	66	148	163	311	311	.....	.....	.....	.....
Total, city...1,674								35	306
Bear Lake	79	217	193	410	410	.....	.....	2	72
Cedar Lake	63	177	140	317	317	.....	.....	6	61
Chetek	202	505	445	950	950	.....	.....	6	168
Chetek, city	186	373	357	730	730	.....	.....	23	127
Clinton	209	609	491	1,100	1,100	.....	.....	.....	116
Crystal Lake	143	402	352	754	754	.....	.....	5	106
Cumberland	272	751	693	1,444	1,444	.....	.....	5	174
Cumberland, city	308	766	727	1,493	1,484	.....	9	11	179
Dallas	224	568	496	1,064	1,064	.....	.....	9	163
Dallas, village	84	193	157	350	350	.....	.....	8	76
Dovre	213	563	514	1,077	1,077	.....	.....	6	219
Doyle	96	274	227	501	501	.....	.....	4	83
Lakeland	155	409	377	786	786	.....	26	4	135
Maple Grove	329	916	789	1,705	1,703	.....	.....	8	300
Oak Grove	198	541	455	996	996	.....	.....	1	180
Prairie Farm	148	424	386	810	810	.....	.....	1	164
Prairie Farm, village..	68	148	183	331	331	.....	.....	10	48
Rice Lake	151	459	389	848	848	.....	.....	2	148
Rice Lake, city:									
ward 1	148	361	340	701	701	.....	.....	.....	.....
ward 2	175	459	441	900	900	.....	.....	.....	.....
ward 3	148	381	345	726	726	.....	.....	.....	.....
ward 4	236	536	547	1,083	1,083	.....	.....	.....	.....
Total, city...3,410								36	648
Stanford	157	463	402	865	865	.....	.....	.....	101
Stanley	160	495	400	895	890	.....	5	1	147
Cameron, village	210	290	250	540	540	.....	.....	5	105
Sumner	111	271	267	538	538	.....	.....	13	78
Turtle Lake	178	506	454	960	960	.....	.....	.....	143
Turtle Lake, village...	101	231	205	436	436	.....	.....	4	93
Vance Creek	139	406	349	755	755	.....	.....	5	125
Total	5,669	14,932	13,444	28,376	28,335	1	40	225	4,714

*Chinaman.

BARRON.

Barron, Barron Co. Population, 1,674. The judicial seat of Barron county is located on the M., St. P. & S. Ste. M. Ry., and on Yellow river, 56 miles from Chippewa Falls; 97 miles from St. Paul; 119 miles from Superior, and 288 miles from Milwaukee. American Express; telegraph and telephone connections. Good shipping facilities and passenger service.

The city has good streets and walks, fine public buildings and substantial business blocks. Is lighted by electricity, has 2 banks, 2 drug stores, 4 hardware and 7 general stores, a laundry, 3 hotels, 4 boarding houses, high and graded public schools employing 12 teachers; 5 churches representing the leading religious denominations. 4 physicians, 5 lawyers, 2 public halls and

2 weekly newspapers. The manufacturing industries include flour, stave and heading mills, spinning wheel and bee supply factory, saw mills and woolen mills.

Steam power is used. Wood and coal are used for fuel. Wood is obtained from the adjacent county and coal from St. Paul and Minneapolis. Vegetables can be supplied for canning. The city can be supplied with large quantities of timber. Plenty of help can be secured in the city. Good location for sugar factory, foundry and machine shops, wagon factory and a stump puller factory.

The city is located in a first class farming section and not over 50 per cent of the land suitable for crop raising is improved. The soil is a clayey loam and is about all level and free from stone. Hay, grain of all kinds, potatoes and sugar beets are the principal crops.

CHETEK.

Chetek, Barron Co. Population, 730. Is an incorporated city located on the C., St. P., M. & O. Ry., 14 miles southeast of Barron, the county seat; 33 miles from Chippewa Falls; 131 miles from St. Paul, and 280 miles from Milwaukee. American Express; has telegraph and telephone connections. Good shipping facilities and passenger service.

The city has an electric light plant, a bank, 2 drug stores 5 groceries, 2 hardware and 5 general stores, good hotels and boarding houses, high and graded public schools employing 6 teachers; 5 churches, 3 physicians, 1 lawyer, opera house, flour mill, and saw mills. A weekly newspaper is published.

An unlimited amount of help can be secured in the city and adjacent country. The city has a water supply to the extent of 150 H. P. not yet utilized. Wood and coal are used for fuel, wood being obtained from the surrounding country and coal shipped in. Raw materials such as fruit, vegetables, and berries of all kinds can be supplied in great quantities for canning. The country furnishes clay, sand, stone and timber for building and commercial purposes. There are no idle factories or workshops in the city and no failure in that line of business has ever occurred.

The country surrounding the city is well adapted to farming and only about 50% of the lands suitable for crop raising is improved. Farming is becoming more profitable in this locality each year. Hay, grain of all kinds, potatoes and sugar beets are the principal products. Dairying is another important industry. Situated near Chetek is a beautiful body of water 13 miles



PASTURING ON BURNED-OVER LANDS IN NORTHERN WISCONSIN.

long by 2 miles wide, the shores dotted with summer cottages, where fishing, bathing, rowing, sailing and hunting can be enjoyed. This makes this city one of the most popular summer resorts in the state. One of the largest and most successful Chautauquas is located here which brings thousands of visitors to the city every year.

Chetek is in need of a large summer hotel, a canning factory, a furniture factory and a paper mill.

CUMBERLAND.

Cumberland, Barron Co. Population, 1,193. Is an incorporated city, located on the C., St. P., M. & O. Ry., in the northwestern part of the county, 18 miles northwest of Barron, the county seat; 99 miles from Superior; 77 miles from St. Paul, and 341 miles from Milwaukee. American Express; has telegraph and telephone connections. Good shipping facilities and passenger service.

Has an electric light plant, 2 banks, 2 drug stores, 2 groceries, 3 hardware and 2 general stores, a laundry, furniture store, 3 hotels, 2 boarding houses, high and graded schools employing 11 teachers, 7 churches representing all the leading denominations, 3 physicians, 2 lawyers, tailor shop, bakery, saw mill, stave and heading mill, planing mill, and 2 weekly newspapers.

There is a small water power for manufacturing purposes estimated at 40 H. P., not utilized. Wood is used for fuel, obtained from the adjacent country in large quantities. Coal can be obtained from Ashland or Superior. Raw materials such as fruit, vegetables and corn can be furnished for canning factory as soon as a demand is created. Brick clay, sand, peat, timber and stone are the natural products. Red sandstone is quarried near the city.

The city has wide, well-kept streets, fringed with many beautiful shade trees, has a \$40,000 high school building, public library, opera house, good hotels and many beautiful and substantial mercantile buildings and private residences. Being located on an island formed by Beaver Dam Lake, a body of water 10 miles long, this city is an ideal summer resort. There is a variety of natural scenery, also fine fishing, which, with the delightful climate, makes this section the haven of rest of thousands of visitors during the summer.

The city needs a large first class summer hotel capable of accommodating at least 200 guests.

In the line of manufacturing industries Cumberland needs a canning factory and a wood working plant.

The surrounding country is well adapted to farming and only about 25% of the land suitable for agricultural purposes is improved. The soil is a clayey loam, about 75% of which is level and free from stone; there is very little swampy or sandy land in the vicinity. The unimproved portion of the country is covered with different kinds of hardwood timber interspersed with white pine. Small fruits, hay, grain of all kinds, potatoes and corn are the principal farm products.



AN ORCHARD SCENE.

DALLAS.

Dallas, Barron Co. Population, 550. A village on the M., St. P. & S. Ste. M. Ry., 55 miles from Chippewa Falls; 122 miles from Superior and Duluth; 129 miles from Ashland; 92 miles from St. Paul; 302 miles from Milwaukee and 387 miles from Chicago. Express, U. S., American and National; telegraph and telephone connections. Shipping facilities and passenger service fair.

Has a bank, 1 drug store, 3 general stores, 1 hardware store, 1 millinery store, 2 physicians, graded school employing 3 teachers, 2 hotels capable of accommodating 60 people, 1 implement store, meat markets, blacksmith shop, cheese factory and a feed mill.

Wood is used for fuel obtained from adjacent country at a low price. Plenty of help can be secured in the village and adjacent country. Such raw materials as fruit and vegetables can

be furnished for canning. The natural products are clay and sand.

The village has graded streets, board and cement sidewalks, shade trees, nice picnic groves, etc. Has Norwegian Lutheran and English Methodist churches.

Dallas is in need of a canning factory and a brick yard.

The country surrounding the village is suitable for farming purposes and about 50% of such lands is improved. At least one-half of the country is level and free from stone. A very small per cent is rough, very little is swampy and about 25% sandy. Small fruits, hay, grain and potatoes are the principal farm products.

HAUGEN.

Haugen, Barron Co. Population, 250. An unincorporated village located on the C., St. P., M. & O. Ry., $7\frac{1}{2}$ miles from Rice Lake, the nearest banking point, 17 miles north of Barron, the county seat, 61 miles from Chippewa Falls, 100 miles from Ashland and 327 miles from Milwaukee. American Express; telegraph and telephone connections. Good shipping facilities and passenger service.

Has a drug store, 2 groceries, 2 hardware and 2 general stores, a hotel, 2 boarding houses, public school employing 2 teachers, meat market, blacksmith shop and a saw mill.

Has a small water power for manufacturing purposes estimated at 25 H. P. undeveloped. Wood is used for fuel, being obtained in large quantities from adjacent country. Raw materials such as fruit and vegetables can be supplied for a canning factory. Plenty of clay, sand, stone and timber is furnished by the surrounding country. A limited amount of help can be secured in the village and adjacent country. There are no manufacturing industries located in the village. A wood-working plant to work up the timber is needed.

The country surrounding the village is suitable for farming purposes and only a very small portion is improved.

PRAIRIE FARM.

Village of Prairie Farm, Barron Co. Population, 330. Located 17 miles southwest of Barron, the nearest banking point, and 6 miles from Ridgeland on the M., St. P. & S. Ste. M. Ry., the nearest railway approach, 135 miles from Ashland, 130 miles from Superior and Duluth, 104 miles from St. Paul, 62 miles from Chippewa Falls, 338 miles from Milwaukee and 423 miles from Chicago. Has telephone connections.

Has a drug store, 5 grocery stores, 1 hardware store, 2 department stores, 1 dry goods store, graded school employing 3 teach-

ers; a physician, 2 hotels, 3 boarding houses, restaurant, meat market, 3 blacksmiths and wagon shops and a creamery.

Has a water power that could be utilized for manufacturing purposes, estimated at 50 H. P. Wood is used for fuel, obtained from adjacent country. Sufficient help to operate a small factory could be secured in the village and surrounding country. Vegetables could be supplied for a canning factory which is best suited to the needs of the place. The village is well supplied with clay, sand, timber and stone.

The country surrounding the village is well adapted to farming and about 60% of the land is under cultivation. The land is mostly level and free from stone; about 10% level and stony, 2% swampy and 5% sandy.

RICE LAKE.

Rice Lake, Barron Co. Population, 3,410. An incorporated city on the C., St. P., M. & O. and the M., St. P. & S. Ste. M. Rys., and on the shores of Rice Lake, 13 miles from Barron, the county seat, 44 miles from Chippewa Falls, 100 miles from Superior and 320 miles from Milwaukee. American and U. S. Express; telegraph and telephone connections. Good shipping facilities and passenger service.

Has an electric light plant, 3 banks, 3 drug stores, 10 groceries, 3 dry goods stores, a laundry, an excellent high and graded school system employing 24 teachers, Catholic, Lutheran and Methodist churches, 6 physicians, 5 lawyers, 5 hotels and 2 boarding houses, tannery, saw and planing mills, an opera house and two weekly newspapers.

There is plenty of help to be had in the city.

Wood and coal are used for fuel; the former is obtained from adjacent country and coal is shipped in. Vegetables can be furnished for a canning factory and the city can be supplied with such raw materials as clay, sand, stone and timber. This is a good location for wood working factories, boot and shoe factory or woolen mills. There is a water power of 900 H. P. for manufacturing purposes and an additional 500 H. P. undeveloped.

The city is a fine summer resort, has wide and well kept streets and walks, beautiful public parks, public library costing \$10,000, city hall costing \$9,000, new high school building costing \$40,000, 4 ward schools and two miles of lake frontage.

The surrounding country is suitable for farming and only

about 40 per cent of the land suitable for crop raising is improved. The surrounding country is about 95% level and free from stone and 5% rough.

TURTLE LAKE.

Turtle Lake, Barron Co. Population, 436. An incorporated village on the C., St. M. & O. and the M., St. P. & S. Ste. M. Rys., 112 miles from Superior and Duluth, 16 miles from Barron, 64 miles from St. Paul, 62 miles from Chippewa Falls, 309 miles from Milwaukee, 394 miles from Chicago. Express, U. S. and American; telegraph and telephone connections. Shipping facilities are the very best.

The village has a bank, a drug store, 5 grocery stores, 1 hardware store, 4 general stores, 1 physician, graded school employing 3 teachers, 3 hotels, 1 boarding house, Catholic, Episcopal and United Brethren churches, creamery, saw mill, feed mill and blacksmith shop and a weekly newspaper.

Help can be secured in the village and adjacent country. Wood is used for fuel obtained from surrounding country. Such raw materials as fruit, vegetables and some others can be furnished for a canning factory. The natural products are clay, sand, stone, peat and timber.

The location of the village is unusually favorable for development and it will soon be the center of a great live stock, dairy and general farming region. Has a large Union Railway depot, substantial business blocks, and first class hotels.

Turtle Lake is a summer resort having three beautiful lakes within easy reach where are located a number of summer cottages.

The village is in need of a grist mill and a canning factory.

The country surrounding the village is good for farming purposes and only about 1-10 of the land suitable for crop raising is improved. Of the land, about 75% is fairly level and free from stone; of the remainder, a small portion is rough, very little swampy and none sandy. The soil is a rich clay loam with a deep clay subsoil, making the country well fitted for diversified farming. Hay, grain of all kinds, small fruits and vegetables are the principal farm products. Dairying is an important industry.

BAYFIELD COUNTY.

Bayfield county is located in the northern part of the state bordering on Lake Superior. It is the second largest county in the state, having an area of 1,497 square miles. The population in 1905 was 15,904, a gain of 1,512 over 1900. It has a large number of foreigners, the majority being Norwegians, Swedes or Canadians, although there is a considerable settlement of Finns and Germans. Like all of the northern counties, Bayfield county is largely unsettled. The land surface in this county is very irregular, giving many of the roads steep and uncertain grades. Covering all of the Apostle Islands, the peninsula and stretching inland some miles from the lake shore, the soil is a red marly clay of very fine texture. In most places this soil is mixed with enough sand to make it good for agricultural purposes. South of this red clay and covering the north-central part of the county the soil is sandy, coarse and open in texture. Only by irrigation and intensive farming can it be made very productive. The central and southern part of the county is a clayey loam of the lighter varieties, which soil is the most common in the northern part of the state. This land has a rolling surface and in places is quite stony but not to such an extent as to interfere seriously with tillage. It is an excellent grazing land, and sheep-raising is destined to become one of the leading industries. Only about 105,000 acres are used for agricultural purposes, of which amount less than 15,000 acres have been improved. In 1890 the farm area was 12,960 acres, of which only 1,297 acres were improved. The value of the farms and improvements in 1905 was \$1,154,663 as compared with \$104,560 in 1890. The farm acreage in 1905 represented less than 11 per cent of the area of the county. The chief agricultural products are oats, corn and hay. The price of land from which timber suitable for saw logs has been removed ranges from \$5 to \$10 per acre, and all but a small proportion of this land can be made tillable. The price of improved land ranges from \$20 to \$40 per acre. Washburn is the principal city and county seat: The following table shows the population statistics of the local political divisions for 1905:

BAYFIELD COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Barnes	73	143	98	241	224	....	7	4	57
Bayfield	513	1,549	1,135	2,675	2,179	4	*492	19	504
Bell	35	98	63	161	161	....	....	2	35
Cable	97	226	158	384	383	....	1	4	55
Drummond	99	499	210	709	6.0	....	19	3	30.0
Eileen	119	348	257	605	697	....	8	....	104
Iron River	227	664	584	1,248	1,248	....	....	7	206
Mason	259	518	541	1,359	1,359	....	....	3	261
Oriente	21	114	28	142	142	....	....	....	43
Oulu	104	283	242	525	525	....	....	....	94
Port Wing	160	538	322	860	860	....	....	1	322
Pratt	146	475	315	790	790	....	....	4	118
Washburn	183	947	334	1,281	1,281	....	....	2	524
Washburn, city:									
ward 1	55	165	145	310	310	....	....	....	62
ward 2	133	364	319	683	683	....	....	....	152
ward 3	136	383	288	671	671	....	....	....	153
ward 4	129	413	318	731	721	....	....	....	186
ward 5	184	594	431	1,025	1,025	....	....	....	279
ward 6	97	249	279	528	528	....	....	....	96
ward 7	123	392	308	700	700	....	....	....	156
ward 8	47	154	122	276	276	....	....	....	52
Total, city...4,924								6	....
Total	2,955	9,407	6,497	15,904	15,373	4	527	55	3,794

*241 Indians, not taxed.

BAYFIELD.

Bayfield, Bayfield Co. Population, 2,675. On the shore of Lake Superior at the terminus of the northern division of C. St. P. M. & O Ry., 21 miles from Ashland, 97 miles from Superior and Duluth, 200 miles from St. Paul, 183 miles from Eau Claire, 367 miles from Milwaukee, 452 miles from Chicago. American Express. Telephone and telegraph. Shipping facilities and passenger service good.

Has an electric light plant, one bank, one drug store, six grocery stores, two hardware stores, five dry goods stores, one laundry, two saw mills, box factory and four fishing companies. Has two physicians, one lawyer, good schools employing 18 teachers, two good hotels, and four boarding houses. Two weekly newspapers, churches of the Catholic, Congregational, Episcopal, German Lutheran, Methodist, Presbyterian, Scandinavian and Swedish Lutheran denominations. The Bayfield Harbor & Great Western Ry runs north from the city a distance of 12 miles.

There is no water power. Wood and coal are used for fuel. Wood is obtained from the vicinity and coal from the docks at Washburn and Ashland. Help can be secured in the village

and adjacent country. Raw materials such as fruit and vegetables could be furnished for canning. The village can be furnished with clay, sand, stone and timber. There are two saw mills in operation with material to last for several years, box factory and several large fish packing establishments. It is lighted by electricity, the plant being owned by the city; has an excellent system of water works and an efficient fire department. The city is in need of a canning factory, creamery or small manufacturing plant.

The country surrounding the city is well adapted to farming, but only a small portion is improved. The cut-over lands are naturally adapted to agricultural purposes, the soil is rich and responds quickly under cultivation, making it the best opening for the home seeker to be found anywhere in the Lake Superior region. Situated five and one-half miles south of Bayfield, skirting Chequamegon bay, is the Nourse farm, which has the reputation of growing the "Sliced Strawberry," which has made the hotels of Duluth and Superior famous. Bayfield is a summer resort, has fine public buildings, two large hotels, well-kept streets and lawns, and is well provided with shade trees. Madaline and Bass Islands, two summer resorts, are within a half hour's sail. The lakes and streams abound with fish and the forests are full of game.

BIBON.

Village of Bibon, Bayfield Co. Population, 250. Not incorporated. Located at the Junction of the D. S. S. & A., and C. St. P. M. & O. Rv's., 19 miles from Ashland, 72 miles from Superior and Duluth, 164 miles from St. Paul, 147 miles from Eau Claire, 413 miles from Milwaukee. Express, U. S. & American. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has long distance telephone connection, school employing one teacher, two hotels accommodating 75 people, one grocery store and one general stock of hardware. Has planing mill and a lumber yard.

Raw materials for a canning factory could be furnished if there was a demand for them. The village can be supplied with clay, sand and timber. Wood is used for fuel, obtained from the surrounding country. Coal from Ashland and Superior. The village is supplied with water for household purposes and the White river would furnish water power, as yet undeveloped. The surrounding country is suitable for farming purposes

but only a small portion is improved. About one-third of the land is swampy, one-third rough and the remaining one-third level and free from stone.

The village is in need of canning or furniture factory, pulp or paper mill, box or wagon factory. All the help required could be obtained in the village or surrounding country.



SAW MILL WHERE LOGS ARE CONVERTED INTO CASH.

PORT WING.

Port Wing, Bayfield Co. Population, 600. An unincorporated village located on Lake Superior 18 miles from Iron River, the nearest rail approach and banking point. Connected in summer by boats with Ashland, Superior and Duluth. Has telephone connections. Stage daily to Iron River.

Has good streets and walks, a drug store and four general stores, two hotels, graded public schools employing four teachers, Catholic, Presbyterian and Swedish churches, two physicians, village hall, and creamery. Fine climate, good trout fishing on the inland streams and plenty of game in the nearby forests. Good location for charcoal kiln or excelsior factory.

Help can be secured in the village. Raw materials such as fruit, vegetables and fish can be supplied for a canning factory.

The village can be supplied with clay, sand, timber and the finest of red sandstone.

The country surrounding the village is excellent for farming purposes only a small portion being improved. The land is level and free from stone excepting along the lake shore, and the soil is composed of a mixture of sand and clay. Fruit and vegetables can be grown in abundance. Apples being especially fine. The soil is well adapted for raising potatoes and grass can be grown on the same land eight or nine years without reseeding. Good markets for all kinds of produce are found in Ashland, Superior, Duluth, Bayfield and Washburn.

WASHBURN.

Washburn, Bayfield Co. Population, 4,924. County seat of Bayfield county, located on Chequamegon bay an arm of Lake Superior, and on the C. St. P. M. & O., and the N. P. Ry's 13 miles from Ashland, 89 miles from Superior and Duluth, 188 miles from St. Paul, 359 miles from Milwaukee and 444 miles from Chicago. Express, American. Telegraph and telephone. First class shipping facilities and passenger service.

Has 2 banks, 3 drug stores, 20 grocery stores, 5 hardware stores, 3 department stores, 10 dry goods stores, 1 laundry, 4 school buildings, 30 teachers employed, 5 physicians, 5 lawyers, 12 hotels and 5 boarding houses, 2 newspapers, box factory, 3 saw mills, 1 dynamite plant costing \$750,000. Machine shop, grain elevator, capacity 3,000,000 bushels, coal docks, lumber, cedar post and pole yard. Has a fine water system for household purposes, electric light plant, Catholic, Congregational, Episcopal, Lutheran and Methodist churches.

An ample supply of help could be secured in the city and adjacent country. Wood and coal are used for fuel. Wood is obtained from the surrounding country and coal from docks in the city. The city can be supplied with clay, stone and timber. The stone quarries adjacent to the city produce magnificent brown-stone.

Washburn is a summer resort, has good hotels and a number of boarding houses. The city would welcome any new manufacturing industries. This is also a good field for a veterinarian.

The surrounding country is suitable for farming purposes, only a very small portion of which is improved. The land is level and free from stone.



SCENE IN NORTHERN WISCONSIN.

BROWN COUNTY.

Brown county is located in the northeastern part of the state at the head of Green Bay. The area is 518 square miles. The population in 1905 was 52,026, a gain of 5,667 over 1900. Being one of the first counties of the state to be settled, the population is largely of native birth. Among the foreign settlers Germans, Belgians and Poles are the most numerous. Nearly all of the county is a heavy red clay soil of an exceedingly fine texture. Under careful farming this soil responds remarkably well. It is similar to the soil of Ashland, Bayfield and Douglas counties. There is practically no swamp land in the county. A few tracts of sandy loam are found near the shore of Green Bay. The area of the county devoted to agricultural purposes in 1905 was 284,000 acres, of which 174,000 acres were improved. The value of the farms together with their improvements was \$4,205,892. A considerable portion of the western half of the county is occupied by the Oneida Indian Reservation. The principal crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Hay	35,108	52,165
Wheat	19,045	8,161
Corn	2,243	2,000
Oats	28,367	45,096
Barley	2,537	10,441
Rye	9,901	9,088

Clover seed is also an important crop. A growing interest is manifested in the culture of sugar beets, about 625 acres being devoted to that purpose in 1905. The dairy interests of the county occupy an important position, there being 41 cheese factories and 12 creameries in 1905. The price of unimproved land ranges from \$15 to \$25 per acre, and for improved land the range of prices is from \$35 to \$60 per acre. Green Bay is the county seat. The following table shows the population statistics of the cities, villages and towns in the county for 1905:

BROWN COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Alloues	111	707	401	1,108	1,077	25	6	.....	89
Ashtaubenon	96	300	246	546	516	.....	.....	.....	119
Bellevue	144	471	406	877	877	.....	.....	4	174
De Pere	146	470	392	862	862	.....	.....	.....	145
De Pere, city:									
ward 1	247	544	542	1,086	1,094	1	1	.....	208
ward 2	265	597	592	1,189	1,186	.....	3	.....	196
ward 3	278	634	632	1,266	1,266	.....	.....	.....	247
ward 4	197	516	466	982	977	5	.....	.....	189
Total, city...4,523								59	
Eaton	187	628	546	1,171	1,174	.....	.....	1	194
Glenmore	228	761	656	1,417	1,417	.....	.....	9	300
Green Bay	160	487	411	901	91	.....	.....	7	192
Green Bay, city:									
ward 1	716	1,793	2,019	3,812	3,812	.....	.....	13	701
ward 2	429	1,114	1,039	2,153	2,147	.....	6	11	499
ward 3	374	946	815	1,761	1,757	4	.....	4	525
ward 4	832	1,938	1,803	3,741	3,737	3	1	15	653
ward 5	634	1,516	1,498	3,014	3,014	.....	.....	14	517
ward 6	664	1,771	1,543	3,314	3,314	.....	.....	16	631
ward 7	469	1,161	1,127	2,288	2,288	.....	.....	10	382
ward 8	580	1,451	1,320	2,771	2,771	.....	.....	7	623
Total, city...23,584									
Hobart	157	457	393	850	25	.....	*825	15	177
Holland	210	660	574	1,234	1,234	.....	.....	3	206
Howard	301	932	750	1,682	1,682	.....	.....	8	364
Humbolt	180	571	483	1,054	1,054	.....	.....	1	205
Lawrence	123	508	468	1,026	1,026	.....	.....	12	161
Morrison	275	788	676	1,464	1,464	.....	.....	6	317
New Denmark	289	779	698	1,477	1,477	.....	.....	7	277
Wittsfield	233	757	662	1,419	1,419	.....	.....	11	222
Preble	216	1,207	1,084	2,291	2,291	.....	.....	10	371
Rockland	147	419	461	880	820	.....	.....	5	141
Scott	213	621	590	1,211	1,211	.....	.....	14	209
Snamico	213	716	616	1,332	1,332	.....	.....	14	222
Wrightstown	250	751	658	1,409	1,409	.....	.....	7	270
Wrightstown, village..	128	256	239	495	495	.....	.....	4	12
Total	10,631	27,177	24,749	52,026	51,146	38	842	287	9,787

*56 Indians, not taxed.

DE PERE.

City of De Pere, Brown Co. Population, 4,523. On C. & N. W. and the C. M. & St. P. Rys., 4½ miles from Green Bay, 42 miles from Oshkosh, 142 miles from Madison, 123 miles from Milwaukee and 20½ from Chicago. Express, U. S. and American. Good shipping facilities and passenger service.

The city contains 2 banks, 4 drug stores, a laundry, 3 hardware stores, 2 High Schools, 11 churches, representing all the leading religious denominations, 3 hotels, 3 public halls, 4 physicians, 2 lawyers, elevators, flour mill, cooperage and saw mill machinery factory, foundry and sash and blind factory, 2 creameries, 6 brick yards, 3 lime stone quarries, 5 factories and one of the largest writing paper mills in the world. Has electric light

plant and telephone system and electric railway connection. Six newspapers are published in the city.

Situated at the head of navigation on the Fox river, gives the city water communication with all lake ports. The river presents a magnificent power of from 3,000 to 4,000 horse power at this point, and gives factories the advantage of a cheap power and lake navigation. Coal is used for fuel obtained via Lake boats from Buffalo and Cleveland. Plenty of help can be secured in the city and adjacent country. Vegetables can be furnished in sufficient quantities for canning. The natural products are sand, clay, stone and timber.

The city is very prosperous and enterprising, finely located and has much beautiful scenery. Has substantial business blocks, fine public buildings, and beautiful residences. A magnificent college is located here for the education of young men for the priesthood. Has two high school buildings, good hotels and a large number of manufacturing industries employing hundreds of laborers. This makes the city a good market for all farm products. Manufactured articles, cattle, country produce, grain and hay constitute the shipments. The city could be made a very pleasant summer resort. Is in need of a wood working factory.

The country surrounding the city is well adapted for farming purposes, the land is well improved and the soil very fertile.

GREEN BAY.

Green Bay, Brown Co. Population, 23,584. Situated on Green Bay at the mouth of the Fox River, 113 miles from Milwaukee, 194 miles from Madison and 198 miles from Chicago. C. & N. W. Ry., C. M. & St. P. Ry., K. I. G. B. & W. Ry. south, The Hart Steamboat Line operates a number of boats to northern ports and the Lackawanna Green Bay Line connects this city with the east. Electric railway connections with all cities in Fox River valley; telephone connection; street railway; waterworks from artesian wells; gas and electric plants; Western Union and Postal telegraph; American and United States express.

Green Bay is the north-eastern metropolis of Wisconsin, and the natural market for a large territory both in this state and in Michigan. The country surrounding the city is one of the finest agricultural and grazing districts in the state. This fact, together with the excellent shipping facilities has made the city an important manufacturing and commercial center. In 1905 there were 103 manufacturing establishments with a total capital of \$3,749,056, employing 2,111 men and with an annual product valued at \$4,873,027. Compared with 1900 there

was an increase of 30.4% in the number of establishments. 38.6% increase in capitalization, 55.5% in the number of wage-earners and 79.9% in the annual product. The chief manufactured products are lumber, furniture, malt liquors, foundry products, confectionery goods, canned goods, matches, paper and pulp. An extensive wholesale trade is conducted in groceries, drugs, crockery and fish.

There is a large amount of land in the city suitable for factory location, much of it having shipping facilities by rail and water. There are no unoccupied factories. A large increase in labor can be secured from the surrounding country. Various industries are desired and the city will offer reasonable inducements for the location of manufacturing plants and wholesale establishments. Wood, lumber and iron ore are near at hand. Coal is brought by boat from Lake Erie ports. Vegetables can be grown in large quantities to supply additional canning factories.

The city has a good system of public and parochial schools and a large business college. The leading religious denominations are represented and own large and expensive churches. There are also located here large hospitals. Catholic orphan asylum and the Odd Fellows' Home.

GREENLEAF.

Village of Greenleaf, Brown Co. Population, 500. Not incorporated. C. M. & St. P. Ry., $3\frac{1}{2}$ miles from Wrightstown, the nearest banking point, 16 miles from Green Bay, 98 miles from Milwaukee and 183 miles from Chicago. Express, United States; telephone and telegraph connections; shipping facilities good.

Has 2 grocery stores, 2 general merchandise stores, hotels capable of accommodating 100 persons, 2 boarding houses, graded schools employing 2 teachers, 2 churches, 2 blacksmith shops, and a grist mill.

The village is in easy reach of the principal wholesale centers of the west. Coal and wood are used for fuel. Wood is obtained from the local market and coal from the docks at De Pere or Green Bay. An ample supply of help can be secured from the village and surrounding country. Raw materials such as fruit and vegetables can be supplied for canning. The natural products are clay, sand, stone, peat and timber. The largest stone quarry in the state is located near the village.

The village has shady public parks, good churches, and schools, undeveloped water power estimated at 1,000 horse power, sub-

stantial business blocks and modern residences. Could be made a summer resort. Is in need of a hardware store, furniture store, harness shop, jewelry store, tailor shop, laundry, photograph gallery, and a first class hotel.

The village is surrounded by a fine farming country, 75% of the land being improved. The soil is a clayey loam, 90% of which is free from stone; 5% is swampy.

WAYSIDE.

Village of Wayside, Brown Co. Population, 300. Not incorporated; 22 miles south of Green Bay, the county seat, 9 miles from Grinnons on the C. & N. W. Ry., in Manitowoc Co., the nearest shipping point, 15 miles from De Pere, the nearest banking point, 25 miles from Manitowoc, 102 miles from Milwaukee and 187 miles from Chicago.

The village has 2 general merchandise stores, a hardware store, 2 hotels, 2 boarding houses, a physician and a public school employing 2 teachers.

There is no water power. Wood and coal are used for fuel. Wood is obtained from adjacent country and coal from docks at De Pere and Manitowoc. A limited amount of help could be secured in the village and surrounding country. Vegetables could be furnished for a canning factory. The village can be supplied with such natural products as clay, sand and timber.

In the line of manufactories the village has a cheese factory, cheese vat factory, wagon shops, planing mill, flour mill and saw mill.

The surrounding country is suitable for general farming; the soil is first class and the land is mostly improved.

WRIGHTSTOWN.

Village of Wrightstown, Brown Co. Population, 495. On the C. & N. W. Ry., and Fox River, 16 miles from Green Bay, 52 miles from Oshkosh, 57 miles from Manitowoc, 113 miles from Milwaukee and 198 miles from Chicago. American Express. Shipping facilities good. Telegraph and telephone connections.

This village has a bank, a drug store, six dry goods and grocery stores, two hardware stores, graded public schools employing five teachers, one physician, two hotels, two boarding houses, flour mill, blacksmith shop, three farm implement stores, two creameries and electric railway connections.

Boats navigate Fox river 8 months of the year. The river furnishes an abundance of water power which could be utilized for manufacturing purposes. Wood and coal are used for fuel.

The former is obtained from the adjacent country and the latter from the docks at Green Bay and De Pere. Such raw materials as fruit and vegetables can be supplied for canning. The natural products are clay, sand and stone. A limited amount of help can be secured in the village and surrounding country.

The streets are paved with crushed stone, has cement and plank walks and many beautiful shade trees. There are two public parks. Ridge Point two miles north on electric railway is a popular summer resort. Has Baptist, Catholic, German Lutheran and Methodist churches.

The country surrounding the village is first class for farming purposes and very nearly all the land suitable for crop raising is improved. About 80% of the land is level and free from stone, only a very small portion is rough and a small per cent sandy.

BUFFALO COUNTY.

Buffalo county is located in the west central part of the state on the Mississippi River. It has an area of 662 square miles. The population in 1905 was 16, 523. Less than one-fifth of the population is of foreign birth. Of this number, Germans represent nearly one-half. There are also a considerable number of Norwegian and Swiss settlers. It is a purely agricultural county with an excellent quality of soil. In the northern part of the county the soil is a sandy loam which is easily worked because of its rather coarse grain. The central and southern portion of the county is a clayey loam, well adapted to the raising of small grain and grasses. Along the banks of the Chippewa, Mississippi and Tempealeau Rivers the soil is more or less sandy. There is practically no tract which cannot be improved and made good tillable land. The county has many valleys and bluffs with some of the best soil found along the hillsides though there are large tracts of rich level land in the valleys and on the ridges. About 395,000 acres of land are now occupied for farming, of which amount one-half is improved and under cultivation. The value of farm lands and buildings in 1905 was about \$10,200,000 as compared with a value of only \$4,019,475 in 1895. The principal crops with their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Hay	33,251	36,734
Wheat	31,274	11,619
Corn	18,193	23,471
Oats	26,651	52,297
Barley	2,490	16,365
Rye	2,688	3,187

There are 15 cheese factories and 11 creameries in the county. There is considerable land which can be partly cleared and farmed, such land being worth from \$5 to \$20 per acre, according to the location and amount of timber growing thereon. Partly improved land sells at from \$15 to \$25 per acre. The price of improved farm land ranges from \$35 to \$60 per acre, and the sale of some small tracts are recorded at \$100 per acre. Alma is the county seat. The population for 1905 of the cities, towns and villages was as follows:

BUFFALO COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPU- LATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Alma	126	351	298	649	649	.....	.....	.....	146
Alma, city	470	574	598	1,172	1,172	.....	.....	15	250
Belvidere	165	411	361	772	772	.....	.....	4	170
Buffalo	133	361	326	687	687	.....	.....	.....	133
Buffalo, city	63	118	117	235	235	.....	.....	8	89
Canton	138	390	322	712	712	.....	.....	4	132
Cross	107	532	279	611	611	.....	.....	1	133
Dover	147	461	355	816	816	.....	.....	10	161
Fountain City	276	627	481	1,108	1,008	.....	.....	19	213
Gilmanton	158	420	568	788	788	.....	.....	6	144
Glencoe	143	431	372	803	803	.....	.....	3	164
Lincoln	123	294	264	558	558	.....	.....	1	121
Maxville	115	306	289	595	595	.....	.....	4	104
Milton	58	149	129	278	278	.....	.....	2	55
Modena	165	463	406	869	869	.....	.....	8	13
Mondovi	132	376	354	730	730	.....	.....	4	123
Mondovi, city	315	673	777	1,450	1,449	*1	.....	26	251
Montana	129	289	522	711	711	.....	.....	3	16
Naples	173	455	426	881	881	.....	.....	9	15
Nelson	285	752	686	1,438	1,438	.....	.....	15	254
Waumandee	156	404	356	760	760	.....	.....	3	167
Total	3,576	8,637	7,886	16,523	16,522	1	.....	140	3,224

*Japanese.

FOUNTAIN CITY.

Fountain City, Buffalo Co. Population, 1,008. Incorporated city on the C., B. & Q. Ry., 36 miles from La Crosse, 169 miles from Madison, 251 miles from Milwaukee and 299 miles from Chicago. Adams Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Is supplied with an electric light plant, 2 drug stores, 3 grocery stores, High School employing 6 teachers, 1 physician, 1 lawyer, flour mill, 2 grain elevators, brewery, hotels, Catholic, German Reformed Lutheran and Methodist churches, planing mill and semi-weekly newspaper. A steamer runs daily between the city and Winona, Minn.

The city is situated on the Mississippi river at the foot of beautiful hills. Has fine public buildings, a nice public park, 2 public school buildings, a public hall seating 800 people, good hotels, and substantial business blocks. Could be made a summer resort. Is in need of a canning factory.

Help can be secured in the city and adjacent country. Wood is used for fuel obtained from the farmers near the city. Vegetables can be furnished in sufficient quantities for canning. The surrounding country is adapted to farming and all the land suitable for crop raising is improved. All good soil.

MONDOVI.

Mondovi, Buffalo Co. Population, 1,450. Is an incorporated city located on the C., St. P., M. & O. Ry., and on the Buffalo river, 30 miles northwest of Alma, the county seat, 69 miles by rail from Eau Claire, 190 miles from Madison and 272 miles from Milwaukee. American Express. Telegraph and telephone connections. Fairly good shipping facilities and passenger service.

Is supplied with electric light plant, 2 banks, 2 drug stores, 3 hardware and 4 general stores, good public schools employing 15 teachers, Baptist, Catholic, Congregational, Evangelical and Methodist churches, 6 physicians, 4 lawyers, flour mills, cigar factory, grain elevators and marble works. Two weekly newspapers are published.

There is a water power estimated at 200 H. P. not developed. A good supply of help can be secured in the city and adjacent country. Fruit and vegetables can be furnished for a canning factory. The natural products of the country are clay, sand and timber, all of which can be furnished in large quantities.

Beautiful shade trees, clean streets and good walks make this a very pleasant little city to live in. Could be made as fine a summer resort, as Mirror Lake, a beautiful body of water, furnishes much recreation for visitors. Three good hotels furnish plenty of accommodation at the present time.

The city needs a canning factory.

About one-half of the country surrounding the city is level and free from stone, the remainder being rough with a small amount of swamps and sand. The soil is good for farming purposes and is nearly all improved.

NELSON.

Village of Nelson, Buffalo Co. Population, 360. Not incorporated; on the C., B. & Q. Ry., 60 miles from La Crosse, 12 miles from St. Paul, 48 miles from Eau Claire, 193 miles from Madison, 219 miles from Milwaukee and 323 miles from Chicago. The nearest banking point is Wabasha, Minn., four miles distant. Adams Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has three grocery stores, 2 hardware stores, 3 dry goods stores, 2 hotels able to accommodate 50 guests, graded school employing 2 teachers, a physician, blacksmith and wagon shop and a creamery.

There is no water power here. Wood is used for fuel, being very plentiful in the adjacent country. Considerable help can be secured in the village and surrounding country. Raw materials such as fruit, vegetables and fish can be supplied for canning. The natural products are clay, sand, timber and stone. The village is in need of a first class hotel and a canning factory.

The surrounding country is good for farming purposes, and about 50% of the land suitable for crop raising is improved. The country is rolling, some hills but no swamps; the valleys are sandy but the soil, taken as a whole, is rich and productive.

BURNETT COUNTY.

Burnett county is located in the north-western part of the state, bordering on the St. Croix River. The area is 881 square miles. About one-third of the population is of foreign birth and almost exclusively Scandinavian. Only 203,402 acres have been occupied for agricultural purposes, of which less than 45,000 acres are improved land. The value of the farms including improvements is \$2,654,248. In 1890 the farm acreage was 103,213, which together with improvements was valued at \$781,568. Along the river and for some distance back the land is broken and hilly. The county as a whole is rolling, and in some parts has the pitted surface characteristic of morainal topography. Only a comparatively small part of the county, 36% of its area, has been brought under cultivation, and vast tracts

are open to agriculture and grazing. The soil is mostly of a light sandy nature, coarse and open in texture and not very fertile. The soil is not uniformly light and comparatively poor, but scattered throughout the county are numerous tracts of sandy loam and along the margins where one type of soil merges into another, some excellent farming land is to be found. Small streams and lakes abound, which serve to moisten the soil and lend themselves to irrigation. Much of this land is better adapted to sheep farming than the land used for such purposes in the states further westward. The principal crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	874	3,000
Oats	1,994	6,005
Corn	938	2,717
Hay	9,168	36,734

Rye is also an important crop, about 700 acres being devoted to it. The price of unimproved land ranges from \$5 to \$10 per acre, and for improved land from \$25. to \$60. per acre, according to quality and location. The county has practically no railroad facilities, the only line being a short spur from Grantsburg to the state line. Grantsburg is the county seat. The following table shows the population statistics of the local political divisions in 1905.

BURNETT COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPU- LATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Anderson	124	325	259	614	614	....	....	2	80
Blaine	176	344	260	604	557	....	47	8	120
Dewey	78	219	188	4 7	359	....	48	7	76
Grantsburg	203	562	511	1,073	1,073	....	....	4	148
Grantsburg, village ..	165	365	340	705	705	....	....	7	129
Jackson	149	343	272	615	556	....	45	7	116
La Follette	119	292	246	538	534	....	4	7	110
Marshland	256	632	530	1,162	1,153	....	9	7	209
Meenon	174	442	377	819	813	....	6	11	140
Roosevelt	41	102	96	198	197	....	1	....	25
Rusk	65	161	126	287	259	....	23	2	56
Trade Lake	242	639	532	1,171	1,171	....	....	....	164
Wood Lake	122	597	471	1,068	1,068	....	....	2	179
Total	1,914	5,023	4,238	9,261	9,073	....	188	64	1,551

GRANTISBURG.

Grantsburg, Burnett Co. Population, 705. Is an incorporated village, located on a branch of the N. P. Ry., in the southwestern part of Burnett county, of which it is the judicial seat, 17 miles from Rush City, Minn., 112 miles from Superior, 72 miles from St. Paul and 397 miles from Milwaukee. N. P. Express, Telegraph and telephone connections. Fairly good shipping facilities and passenger service.

Is supplied with electric light plant, 2 banks, a drug store, 2 hardware and 8 general stores, 2 hotels, 3 boarding houses, a high school employing 6 teachers, Baptist, Congregational, Lutheran and Methodist churches, 4 physicians, 2 lawyers, 2 starch factories, flour mill, excelsior factory, harness shop, 2 lumber yards and a brick yard. Two weekly newspapers are published.

There is a small undeveloped water power here. Wood and coal are used for fuel. Wood is plenty in the adjacent country and coal is shipped from St. Paul or Superior. Vegetables can be supplied for canning. The village can be supplied with clay, sand, peat, timber and stone. Help can be secured in the village and surrounding country.

The country surrounding the village is suitable for agricultural purposes and only about 50 per cent of the land is improved. The soil is a clayey and sandy loam. Good location for any kind of manufacturing industries; also a steam laundry.

CALUMET COUNTY.

Calumet county is located in the east-central part of the state, bordering on Lake Winnebago. The area is 317 square miles. The population in 1905 was 16,889. Of this number less than one-fifth are of foreign birth, of whom 85% are Germans. The farm acreage, 194,000 acres, represents practically the entire county, of which amount 140,000 acres are improved land. The value of the farms in 1905, including improvements, was \$14,734,265. In 1890 the farm acreage was 184,766 acres, which, including improvements, was worth \$7,927,070. Adjacent to the lake, the topography is somewhat rugged and abrupt, especially in the northern part. In the eastern part the topography is typical for the lacustrine clay area bordering on the great lakes in this state. The surface is generally

rolling and undulating, but containing no very pronounced hills or ridges. The soil throughout the larger part of this county is a fine heavy red clay, such as covers a large part of Brown, Ashland and Bayfield counties. In the southern part of the county the soil is a loamy clay of an excellent quality best adapted to general farming and dairying. There is considerable swampy land in the central, southern and eastern parts of the county composed largely of muck and peat. The acreage of the principal crops in 1890 and 1905 was approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	20,374	3,583
Oats	15,580	21,778
Corn	5,117	5,536
Barley	17,240	37,304
Clover Seed	5,712	5,807
Hay	21,334	23,452

In 1905 there were 47 cheese factories and 2 creameries in the county. The price of improved lands without buildings ranges from \$75 to \$80 per acre, and with buildings the prices range from \$80 to \$110 per acre, according to location. There is but little unimproved land in the county. Unimproved low swampy lands sells at from \$25 to \$50 per acre. Chilton is the most important city and county seat. The table on page 465 shows the population statistics of the various cities, villages and towns in the county for 1905.

BRILLION

Brillion, Calumet Co. Population, 357. An incorporated village on the C. & N. W. Ry., in the northeastern part of the county, 22 miles from Manitowac, 47 miles from Sheboygan, 26 miles from Green Bay, 99 miles from Milwaukee and 184 miles from Chicago. American Express, Telegraph and telephone connections. Has six passenger trains daily and good facilities for shipping freight.

Has electric light plant, 2 banks, 2 drug stores, 5 groceries, 2 hardware and 3 dry goods stores, graded school employing 7 teachers, 3 physicians, 1 lawyer, 2 hotels, 4 churches, flour, grist, planing and saw mills, iron works, a furniture and table factory, a creamery, cement block manufactories, carriage and wagon shops, 2 grain elevators and a brick yard. A weekly newspaper is published.

CALUMET COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Brillion	287	771	750	1,521	1,521	...	...	4	232
Brillion, village	222	476	461	937	937	...	...	3	183
Brothertown	283	789	714	1,503	1,406	...	97	12	259
Charlestown	152	645	593	1,238	1,235	3	...	21	199
Chilton	243	644	590	1,234	1,234	...	...	9	191
Chilton, city:									
ward 1	108	203	219	422	420	2	...	...	...
ward 2	127	232	291	523	523	...	...	...	...
ward 3	133	272	311	583	583	...	...	...	...
Total, city...1,528								18	235
Harrison	357	1,014	998	2,007	2,007	...	...	2	350
New Holstein	265	671	608	1,279	1,279	...	...	3	252
New Holstein, village	185	324	343	667	667	...	...	11	123
Rantoul	223	670	593	1,263	1,263	...	...	8	239
Hillbert, village	128	287	304	591	591	...	...	3	102
Stockbridge	395	1,022	873	1,895	1,788	7	120	19	395
Woodville	219	662	564	1,226	1,226	...	...	7	285
Total	3,437	8,682	8,207	16,889	16,665	12	217	123	2,995

Help can be secured in the village and adjacent country to work the entire year. There is no water power. Coal and wood are used for fuel. Wood is obtained at the local markets and coal from Green Bay, Manitowoc and Sheboygan. A canning factory could be supplied with vegetables. The natural products are clay, sand and stone.

The village has graded and macadamized streets, a beautiful public park, large brick village hall, good business blocks and many fine residences. Is not a summer resort but could be made one. Long Lake and other small lakes are located near the village making it a very pleasant place in summer.

A canning factory is needed.

Brillion is surrounded with a good farming country. The land suitable for crop raising is very nearly all improved. The surface is somewhat broken and hilly, but the soil is rich and productive.

CHILTON.

City of Chilton, Calumet Co. Population, 1,528. On the Superior Division of the C. M. & St. P. Ry., and on the Manitowoc river, 34 miles from Green Bay, 34 miles from Manitowoc, 78 miles from Milwaukee and 163 from Chicago. United States Express. Telegraph and telephone connections.

Has electric light plant, 2 banks, 2 drug stores, 8 grocery stores, 2 hardware stores, 4 dry goods stores, 1 laundry, good

schools employing 8 teachers, 3 physicians, 5 lawyers, 4 hotels with a total capacity for 100 guests, 6 boarding houses, shoe store, gents furnishing store, 6 churches, 2 flour mills, boiler works and machine repair shops, planing mill, brewery, large malt house, 2 machine shops, sash, door and blind factory and 2 weekly newspapers.

There is no water power at this place. Wood and coal are used for fuel. Wood is obtained from the surrounding country, and coal can be obtained at Manitowoc and Milwaukee. Plenty of help can be secured in the city and surrounding country to work the entire year. Fruit and vegetables can be supplied for canning purposes. There is a large deposit of clay for making vitrified brick and pottery, in the city limits; also an inexhaustible stone quarry one mile from the city. There is one idle factory building in the city used some years ago as a machine shop. The city is in need of a furniture or shoe factory and a manufactory of vitrified brick.

The country surrounding the city is one of the best farming sections in the state. The soil consists of a rich clay loam, gently rolling and free from stone. The land suitable for crop raising is very nearly all improved, and is noted as the best barley district in Wisconsin.

FOREST JUNCTION.

Forest Junction, Calumet Co. Population, 200. Not incorporated. On the C. M. & St. P. and the C. & N. W. Rys., in Brillion township, 12 miles north of Chilton, the county seat, and 6 miles from Brillion, the nearest banking point, 20 miles from Green Bay, 26 miles from Manitowoc, 98 miles from Milwaukee and 175 miles from Chicago. Freight and passenger facilities good. American and United States Express. Telegraph and telephone connections.

Has three general stores, one hardware store, two hotels, one boarding house, one physician, school employing one teacher, German Evangelical and German Lutheran churches.

There is no water power. Coal and wood are used for fuel. Wood is secured from the adjacent country and coal from Green Bay and Manitowoc. A limited supply of help, chiefly men and young people can be secured in the village and adjacent country. Fruit and vegetables could be furnished for canning. A canning factory and a cold storage would be best suited to the industrial needs of the village.

Forest Junction is in the midst of a rich farming country. About 85 per cent of the land suitable for crop raising is improved. The soil is fertile and the country gently rolling. The

village has a number of up-to-date business places, and the trades and professions are quite well represented.

HILBERT.

Hilbert, Calumet Co. Population, 591. Incorporated. Located on the C. M. & St. P., and W. C. Rys., 7 miles north of Chilton, the county seat, 27 miles south of Green Bay, 27 miles from Manitowoc, 85 miles from Milwaukee and 170 miles from Chicago. Freight and passenger facilities good. United States and National Express. Telegraph and telephone connections.

Has a gas plant, one bank, one drug store, three groceries, two hardware and two dry goods stores, one physician, two hotels, three boarding houses, good schools employing five teachers. Churches of the Catholic and Lutheran denominations, saw and planing mills and a woodenware factory.

Help can be secured in the village and adjacent country to work the year round. Coal and wood are used for fuel and can be obtained at the local lumber yards. There is no water power. Fruit and vegetables can be supplied for canning. Clay is the only natural product that can be supplied in large quantities.

The village is in need of a first-class hotel and a grist mill.

Hilbert is surrounded by a good farming country and about three-fourths of the land suitable for crop raising is improved. The soil is fertile and the land is level and free from stone. The village has good graded streets, good walks, substantial business and public buildings, and many nice residences.

NEW HOLSTEIN.

New Holstein, Calumet Co. Population, 667. On the C. M. & St. P. Ry., 41 miles from Green Bay, 41 miles from Manitowoc, 36 miles from Oshkosh, 71 miles from Milwaukee and 156 miles from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has one bank, four grocery stores, two hardware stores, three dry goods stores, graded school employing four teachers, one physician, two hotels with a capacity for fifty guests, three boarding houses, one church, gas engine factory, boiler and machine shop, canning factory, creamery, flour mill, two elevators, two furniture stores and a lumber yard. A first-class hotel is needed. Good location for another canning factory and lime kiln.

There is no water power. Wood and coal are used for fuel. Wood is obtained from the immediate vicinity and coal is ob-

tained at Milwaukee and Chicago. Plenty of help can be secured in the village and surrounding country to work the entire year. The village can be supplied with sand, stone, timber and iron. There are no idle factories or workshops in the village and no failures in that line have ever occurred here.

The country surrounding the village is good for farming purposes and about seven-eighths of the land suitable for crop raising is improved. The soil is a loamy clay, 10 per cent of which is rough, 10 per cent stony, 10 per cent swampy, 10 per cent sandy and the remaining 60 per cent level and free from stone.

STOCKBRIDGE.

Stockbridge, Calumet Co. Population, 306. Unincorporated. Situated in Stockbridge township, about 9 miles from Chilton, the county seat and the nearest railroad station. The village is about 87 miles from Milwaukee and 172 miles from Chicago.

Has a bank, one drug store, three grocery stores, one hardware store, two dry goods stores, one furniture store, two wagon and one blacksmith shops, two harness shops, one hotel, two bakeries, grist mill, shoe shop and a good high school.

Help can be secured in the village and surrounding country to work the entire year. Coal and wood are used for fuel. Coal is obtained at Green Bay and Chilton and wood from the surrounding country. A small water power estimated at 150-horse power could be utilized for manufacturing purposes.

Raw material such as fruit and vegetables can be supplied in sufficient quantities for canning. The village can be supplied with clay, sand, stone and timber.

Stockbridge is located one and one-half miles from Lake Winnebago, in one of the most fertile valleys in Wisconsin. The soil is a sandy loam and the land is level and free from stone. All the best land is improved. Dairying is the chief industry.

The government Harbor of Refuge is located on the lake shore west of the village. The village is a summer resort and is in need of a first-class hotel to be located near the Government Harbor.

CHIPPEWA COUNTY.

Chippewa county is located in the west central part of the state. The area is 1,022 square miles. The population in 1905 was 32,000, of which number about one-third were of foreign birth. The Germans, Norwegians and Canadians represent nearly the entire number of foreign born. The farm acreage in 1905 was 340,315 acres, of which only 169,410 acres were improved land. The value of these farms including improvements was \$8,974,282. Prior to 1901 Chippewa county included what is now Rusk county. In 1890 the farm acreage of both these counties was only 275,632 acres, of which only 114,839 acres were improved. The value of these farms including improvements was at that time \$1,727,670. The farm acreage in 1905 represents only 52 per cent of the area of the county. The soil in the northern and eastern part of the county is a clayey loam, with a hilly surface and in places stony. It is a good productive soil well adapted to the raising of grain, corn and grasses. From the Chippewa River to the western boundary of the county the soil is a sandy loam yielding excellent results with potato, market gardening and small fruit farming. Sheep raising is also an important industry. In the river valleys the soil is sandy. A considerable and increasing acreage is each year being devoted to the raising of sugar beets, the acreage in 1905 being 1,541. Considering Chippewa and Rusk counties together in 1890, but Chippewa county alone in 1905, the principal crops and acreage for these years were as follows:

	Acreage in both counties in 1890.	Acreage in Chippewa county in 1905.
Potatoes	3,001	5,846
Hay	41,418	51,391
Corn	10,409	10,792
Oats	34,902	42,584
Wheat	4,485	2,177
Rye	1,156	1,913

There are 47 cheese factories and 18 creameries in the county. The price of unimproved cut-over lands range from \$8 to \$15 per acre, and for good improved land, from \$30 to \$60 per acre.

Chippewa Falls is the county seat. The population of the cities, towns and villages for 1905 was as follows:

CHIPPEWA COUNTY.

TOWNS, CITIES AND VILLAGES.	Resides.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.*	Indians.		
Anson	167	434	382	816	816	...	...	11	135
Arthur	147	381	306	687	687	...	...	2	144
Auburn	261	779	706	1,485	1,485	...	...	6	259
New Auburn, village..	84	184	172	356	356	...	...	5	88
Bloomer	275	774	654	1,428	1,428	...	...	13	305
Bloomer, village	261	530	516	1,046	1,046	...	...	19	214
Chippewa Falls, city:									
ward 1	223	601	561	1,162	1,162	...	...	5	232
ward 2	250	634	638	1,272	1,272	1	...	3	233
ward 3	271	733	543	1,276	1,269	7	...	7	382
ward 4	137	293	337	630	628	2	...	5	108
ward 5	222	504	552	1,056	1,036	...	...	5	120
ward 6	186	465	435	900	900	...	...	2	175
ward 7	152	344	316	660	660	...	...	2	121
ward 8	165	396	448	844	844	...	...	5	165
ward 9	154	370	361	731	731	...	...	7	134
ward 10	107	241	237	478	478	...	...	9	94
Total, city, 9,009									
Cleveland	104	287	233	520	496	...	24	4	98
Colburn	151	497	434	931	931	...	...	5	176
Delmar	197	562	469	1,031	1,051	...	...	8	143
Engle Point	220	701	586	1,287	1,367	...	...	11	264
Edson	217	647	557	1,204	1,204	...	...	9	187
Boyd, village	157	366	316	682	682	...	...	6	126
Holcombe	144	402	331	733	704	...	29	7	174
Lafayette	291	1,127	1,031	2,158	2,158	...	...	11	268
Sampson	131	338	271	609	588	...	21	7	104
Sigel	218	579	506	1,084	1,084	...	...	4	109
Cadott, village	176	394	366	760	760	...	...	21	140
Stanley, city:									
ward 1	131	361	340	701	701	...	...	...	...
ward 2	132	290	304	594	594	...	...	...	...
ward 3	84	363	211	574	574	...	...	...	...
ward 4	162	395	358	753	749	4	...	...	...
Total, city, 2,722								12	649
Tilden	251	748	671	1,419	1,419	...	...	2	275
Wheaton	461	1,047	886	1,933	1,933	...	...	9	376
Total	6,278	16,947	15,063	32,000	31,913	13	74	219	5,920

*6 Chinamen.

BLOOMER

Bloomer, Chippewa Co. Population, 1,046. An incorporated village located on the C., St. P., M. & O. Ry., 16 miles from Chippewa Falls, 26 miles from Eau Claire, 129 miles from Superior, 114 miles from St. Paul and 237 miles from Milwaukee. American Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has an electric light plant, a bank, a drug store, 4 grocery stores, a hardware store, 3 general stores, 1 dry goods store, 1 jewelry store, tailor shop, 3 hotels, capacity 40 people, 2 boarding houses, a shoe store, graded public schools employing 7 teachers,

4 physicians, 2 dentists, 1 lawyer, 4 churches, 2 weekly newspapers, a brewery, 2 meat markets, 4 blacksmith shops, machine shop and foundry, large flour mill, 6 potato warehouses, starch factory, saw and planing mills, cigar factory, opera house and a creamery. The village has good streets covered with a mixture of sand and clay, and an abundance of shade trees. Has good business buildings and nice residences, a \$22,000 school house, and an opera house. Is in need of a first-class hotel. A canning factory, pickle salting station, woolen mill, glove factory or shoe factory, would be best suited to the needs of the village.

The water power in the village is all utilized, but there are two good water powers located a few miles away. Wood and coal are used for fuel. Wood is obtained from the farmers around the village and coal is shipped in. Plenty of help can be secured in the village and adjacent country to work the entire year. Such raw materials as fruit and vegetables can be supplied for canning purposes. The village can be supplied with clay, sand, stone and timber. Good location for a brick yard.

The surrounding country is good for farming purposes, and nearly all of the land suitable for crop raising is improved. The soil is a sandy loam, and is all level and free from stone. Is a fine live stock and dairy country and produces immense crops of potatoes, grain of all kinds, corn and tobacco.

BOYD

Boyd, Chippewa Co. Population, 62. Is an incorporated village located on the W. C. Ry., 126 miles from St. Paul, 21 miles from Chippewa Falls, 31 miles from Eau Claire and 247 miles from Milwaukee. National Express, Telegraph and telephone connections. Good shipping facilities and passenger service.

Has an electric light plant, a bank, drug store, 1 grocery, 4 hardware and 2 general stores, 3 hotels, a boarding house, high school employing 8 teachers, Catholic, German Lutheran and Methodist churches, 2 physicians, blacksmith shops, saw mills, a hoop shop, chair factory and a creamery. A weekly newspaper is published.

There is no water power here. Wood is used for fuel, supplied in large quantities from the surrounding country. Only a limited amount of help can be secured in the village and adjacent country. A canning factory can be supplied with vegetables. The village can be supplied with clay, timber and stone.

The country surrounding the village is good for farming pur-

poses, and less than 50 per cent of the land suitable for crop raising is improved. The soil is a clayey loam, sandy to the northward.

A woodenware factory or a factory using small timber would be best suited to the village.

CADOT

Cadott, Chippewa Co. Population, 760. An incorporated village located on the W. C. Ry., 12 miles from Chippewa Falls, the county seat, 23 miles from Eau Claire, 157 miles from Superior and 256 miles from Milwaukee. National Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has good streets and walks, nice shade trees, good business blocks, 2 banks, a drug store, 3 groceries, 2 hardware and 4 general stores, 2 hotels, high school employing 7 teachers, Catholic, Methodist, Presbyterian and German Lutheran churches, 2 physicians, a lawyer, opera house, saw mills, flour mill, and a creamery. A weekly newspaper is published. A first class hotel is needed. Good location for a canning factory.

There is a water power in the village not yet utilized, estimated at 500 horse power. Wood and coal are used for fuel. Wood is obtained from the adjacent country and coal from Chippewa Falls. Plenty of help can be secured in the village and surrounding country. Such raw materials as fruit and vegetables can be supplied in sufficient quantities for canning purposes. The village can be supplied with clay, stone and timber.

The country surrounding the village is good for farming purposes and only about one-third of the land suitable for crop raising is improved. The soil is a sandy loam and the land is level and free from stone. The country is fast developing and is taking high rank as a live stock and dairy section.

CHIPPEWA FALLS

Chippewa Falls, Chippewa Co. Population, 9,000. An incorporated city, located on the Chippewa river and on the C., M. & St. P., the C., St. P., M. & O., and the W. C. Rys., in the southwestern part of Chippewa county, of which it is the judicial seat, 10 miles from Eau Claire, 145 miles from Superior, 156 miles from Ashland, 105 miles from St. Paul, 247 miles from Milwaukee and 332 miles from Chicago. American, United States and National Express. Telegraph and telephone connections. Shipping facilities and passenger services the very best.

The city has, in addition to its other railway facilities, an interurban electric railway connecting it with Eau Claire, ten miles south, the cars running hourly between the two cities. Is supplied with gas and electric light plants, a complete sewerage system, an efficient and well equipped fire department, an electric

fire alarm system and water works. The supply of water for domestic use is obtained from springs located about two miles from the city. The city has 3 banking houses, is well supplied with retail stores carrying large stocks of goods, 2 wholesale grocery stores, a steam laundry, 8 hotels, excellent educational advantages, 12 churches representing all the leading religious denominations, 8 physicians and 10 lawyers. There are many fine business blocks and costly residences, good county buildings, a hospital with 120 beds, a free public library costing \$30,000. The new county insane asylum costing \$50,000 is located just outside of the city limits. The Home for the Feeble Minded, erected at a cost of \$450,000, is located three miles southeast of the city. The water power afforded by the Chippewa river presents unrivaled facilities for manufacturing enterprises. Duncan creek which empties into the Chippewa within the city limits, affords additional facilities for manufactories. Among the more prominent industries are the flouring mills, large grain elevators, sash, door and blind factories, foundry and machine shops, woolen mills, canning factory, 4 shoe factories, a large beet sugar factory, glove factory, shirt factory, 6 creameries, 5 cigar factories, planing mills and one of the largest lumber mills in the world. The general offices of a number of large lumbering companies are located here and large sums of money are distributed annually in wages, materially adding to the business of the city.

There is a large amount of land in the city suitable for business or manufacturing purposes. Free sites will be furnished to reliable parties and other inducements will be offered. The water power not utilized is estimated at from 10,000 to 15,000 h. p. Wood and coal are used for fuel. Another canning factory could be supplied with raw materials. There are large quantities of clay, sand, timber and stone in the immediate vicinity. Plenty of help can be secured to work the entire year.

The city is located in a good farming country and about 75 per cent of the land suitable for crop raising is improved. The soil is a sandy loam, level and free from stone. Dairying and stock raising are leading industries. The soil is adapted to diversified farming and a good quality of sugar beets and leaf tobacco are produced.

The city is in need of a first class hotel. Good location for factories using timber products.

NEW AUBURN.

New Auburn, Chippewa Co. Population, 356. An incorporated village, located on the C. St. P., M. & O. Ry., in the northwestern part of the county, 25 miles from Chippewa Falls, the county seat, 35 miles from Eau Claire, 120 miles from Superior, 131 miles from Ashland and 273 miles from Milwaukee. National Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village is supplied with a bank, drug store, 1 grocery, 1 hardware and 5 general stores, 3 hotels, a boarding house, graded school employing 2 teachers, Baptist, Methodist and United Brethren churches, a physician, a lawyer, and a weekly newspaper.

Good location for a brick yard or canning factory.

There is no water power. Wood is used for fuel, obtained in large quantities from the surrounding country. A limited amount of help can be secured in the village and adjacent country to work the entire year. Such raw materials as vegetables and corn can be supplied for canning purposes. The natural products of the country are clay, sand, timber and stone.

The surrounding country is good for farming purposes, and about 75% of the land suitable for crop raising is improved. The soil is a clay loam and is mostly level and free from stone. The soil is very fertile and produces fine crops of hay, all kinds of grain and potatoes.

STANLEY.

Stanley, Chippewa Co. Population, 2,722. An incorporated city, located on the W. C. Ry., 24 miles from Chippewa Falls, the county seat, 34 miles from Eau Claire, 129 miles from St. Paul and 244 miles from Milwaukee. National Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The city has good water works and sewerage system, electric light plant, good streets, fine shade trees, a public park, free public library, city hall and opera house, 2 banks, 2 drug stores, a full complement of grocery, dry goods and hardware stores, a laundry, good hotels, a number of boarding houses, splendid high and graded schools, 18 teachers employed, 4 physicians, 4 lawyers, churches of the leading religious denominations, a tannery, saw mills, flour mills and a creamery. A weekly newspaper is published.

The city has special inducements to offer manufacturing enterprises requiring large quantities of maple, oak, birch and basswood timber. Also clay suitable for brick or tile. Excellent location for machine shops.

Wood is used for fuel obtained from the mills in the city and the adjacent forests. An abundance of help can be secured in the city and surrounding country to work the entire year. Vegetables can be supplied for canning purposes. The city can be supplied with stone, timber of all kinds, bark, clay and sand suitable for the manufacture of brick, tile, sewer pipe and various other clay products.

The country surrounding the city is good for farming purposes and only about 10% of the land suitable for crop raising is improved. The land is rolling and free from stone, excepting some surface rocks scattered over a portion of it. This section is unequalled as a grass country, and dairying and sheep raising are fast becoming important industries. Cheese factories and creameries are numerous in every direction.

CLARK COUNTY.

Clark county is located in the west central part of the state. It has an area of 1,200 square miles. Its population in 1905 was 29,344, a gain of 3,496 over 1900. One-fifth of the population is of foreign birth, of which number about one half are Germans. There are also a large number of Poles, Norwegians and Canadians. The soil covering all of the county with the exception of the southern and nearly all of the western part is a loamy clay uniform in texture and composition. The land is gently sloping and well drained. There is considerable hardwood and hemlock in the county; the pine which was once plentiful having been cut away. Every acre of this land can be used for farming and with the abundant grass and clover crops it appears that dairying and stock raising are destined to become the chief sources of farm income. In the southern and western part this soil shades into a warm sandy loam with a gently rolling surface dotted occasionally by sandstone hills and mounds. This land is rather low but its drainage is good. The pine which covered this has been entirely cut. This sandy loam in turn shades into a light loamy sand, with a sloping surface, dotted with mounds of sandstone, varying from mere swells to rugged pinacles of considerable height. The pine has been entirely cut from this district. Because of its porous nature this soil is not as productive as the loamy clay, but corn and potatoes can be raised with suc-

cess. There is no swamp land in the county. About 352,000 acres have been occupied for farms of which amount 130,000 acres are improved. The value of the farms including buildings is \$12,750,000. The acreage of the principal crops in 1890 and 1905 is as follows:

	Acreage in 1890.	Acreage in 1905.
Hay	28,550	49,256
Wheat	2,662	2,383
Corn	2,629	3,440
Oats	10,870	27,244
Barley	232	2,453
Rye	712	1,509

In 1905 there were 26 cheese factories and 26 creameries in the county. The price of wild and unimproved lands which can be made tillable is from \$8 to \$20 per acre. Improved land ranges in price from \$20 to \$75 per acre, according to location and improvements. Neillsville is the county seat. The table on the opposite page shows the population of towns, cities and villages for 1905.

ABBOTSFORD.

Abbotsford, Clark Co. Population, 893 within the corporation and about 500 just outside in Marathon Co. This village is located on the W. C. Ry., 214 miles from Milwaukee, 19 miles from St. Paul, 54 miles from Chippewa Falls and 65 miles from Eau Claire. Eight daily passenger trains. Telegraph and telephone connections. National Express. Good freight facilities.

Steam power is used. The surrounding country has a plentiful supply of wood for fuel. Coal is also shipped in from Illinois. One hundred and fifty men and one hundred women could be procured to work in factories. It supports 1 bank, 1 drug store, 4 groceries, 1 hardware store, 1 department store, 1 dry goods store and 1 laundry. It also has 3 physicians, 1 lawyer, a high school employing 8 teachers, 2 hotels and 3 boarding houses.

The village is in need of a vegetable and fruit canning establishment, an electric light plant and a good flouring and feed mill.

The soil of the surrounding country is a clayey loam, land is rolling, free from stone and swamps; can all be utilized for general farming purposes.

CLARK COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indian.		
Beaver	146	383	335	721	721	.....	.....	5	146
Colby	142	418	249	767	767	.....	.....	2	146
*Colby, city	141	296	288	584	584	.....	.....	8	113
Dewhurst	46	111	104	215	215	.....	.....	.....	40
Raton	148	387	299	686	685	.....	1	4	184
Greenwood, city	165	341	346	687	687	.....	.....	12	127
Fremont	190	465	419	874	874	.....	.....	4	177
Grant	247	711	582	1,293	1,292	1	.....	11	268
Green Grove	81	251	206	457	457	.....	.....	1	98
Hewett	64	156	131	287	287	.....	.....	5	50
Hixon	119	351	294	645	615	.....	.....	.....	118
Owen, village	64	198	137	335	335	.....	.....	.....	107
Withee, village	97	212	194	406	406	.....	.....	2	110
Hoard	142	328	285	613	613	.....	.....	3	113
Levis	110	302	255	557	557	.....	.....	3	88
Loyal	190	497	430	927	927	.....	.....	14	176
Loyal, village	192	396	419	815	815	.....	.....	12	137
Lynn	148	359	374	733	733	.....	.....	2	116
Longwood	117	301	246	550	550	.....	.....	4	107
Mayville	216	624	543	1,167	1,167	.....	.....	4	191
Abbotsford, village	146	469	434	893	893	.....	.....	3	227
Dorchester, village	102	238	225	463	463	.....	.....	5	87
Mead	21	71	66	137	137	.....	.....	1	17
Mentor	226	525	482	1,007	1,007	.....	.....	9	160
Neillaville, city:									
ward 1	166	314	364	678	678	.....	.....	.....	.....
ward 2	151	330	347	677	677	.....	.....	.....	.....
ward 3	189	872	390	762	762	.....	.....	.....	.....
Total, city	2,117							42	236
Pine Valley	219	619	516	1,135	1,135	.....	.....	9	183
Reseburg	149	418	330	748	748	.....	.....	2	124
Sherman	127	368	37	673	673	.....	.....	5	149
Self	39	95	91	186	186	.....	.....	.....	32
Sherwood	57	143	149	292	292	.....	.....	6	41
Thorp	215	662	596	1,258	1,258	.....	.....	7	212
Thorp, village	195	435	443	878	878	.....	.....	14	164
Unity	182	471	439	910	910	.....	.....	13	154
Warner	143	422	339	761	752	8	1	7	142
Washburn	96	254	214	468	468	.....	.....	6	36
Weston	162	444	385	829	818	11	.....	8	151
Withee	218	668	615	1,283	1,283	.....	.....	1	197
Worden	179	479	427	906	906	.....	.....	3	182
York	248	596	495	1,081	1,081	.....	.....	3	207
Total	5,995	15,451	13,898	29,344	29,322	9	13	240	5,302

*Part in Marathon county; total for city 849.

COLBY.*

Colby, Clark Co. Population, 849. An incorporated city, located on the W. C. Ry., 211 miles from Milwaukee, 19 miles from Marshfield, 162 miles from St. Paul, 57 miles from Chippewa Falls and 68 miles from Eau Claire. It has six daily passenger trains; good freight facilities. Telegraph and telephone connections. National express.

Plenty of help could be secured in the city and surrounding country. The farms of the surrounding country can supply fruit and vegetables for canning establishments. Clay, timber

†584 inhabitants in Clark Co., 288 in Marathon Co.

and stone can be furnished industries using these products as raw materials. The surrounding country furnishes an abundance of wood for fuel. The city has electric light plant, 1 bank, 1 drug store, 5 groceries, 2 hardware stores, 5 general stores, 3 blacksmith and wagon shops, stave and heading mill and 2 saw mills. The city has 2 physicians, and 2 attorneys at law; a high school employing 7 teachers; has 4 hotels and wants another.

The surrounding country is nearly all suitable for general farming, only one-third of which is improved. The soil is a clayey loam, free from stone and sand, is level and not swampy.

COLUMBIA.

Columbia, Clark Co. Population, about 100. Not incorporated. Located on the C., St. P., M. & O. Ry. Has good passenger and freight services. Telegraph and telephone connections. American Express. Is 31 miles from Marshfield, 140 miles from St. Paul and 230 miles from Milwaukee.

About 100 horse water power can easily be developed. Such raw materials as berries, vegetables, stone, sand and clay can be supplied. It has 1 hardware and 1 general store, a graded school of 2 departments and 1 boarding house. About one-eighth of the surrounding country is rough, one-eighth stony, one-eighth swampy, one-fourth sandy with clay subsoil.

CURTISS.

Village of Curtiss, Clark Co. Population, 300. Unincorporated. Located on W. C. Ry., 7 miles west of Abbotsford, 313 from Chicago, 220 from Milwaukee, 168 miles from Manitowoc. Telegraph and telephone connections. Eight daily trains. Good facilities for receipt and shipment of freight. National Express.

Steam power would have to be used here as there is no water power to develop. The surrounding country can furnish plenty of wood for fuel and for any industry in which wood is used as a raw material; also sand and clay. Plenty of help can be secured. No electric light plant, 1 general store, 1 hardware store, 3 groceries, no drug store, no physicians, has a 2 department graded school, a first class hotel; surrounding country level, free from stone, best of soil and nearly all is suitable for general farming.



CREAMERY NEAR MEDFORD, WIS.

GRANTON.

Village of Granton, Clark Co. Population, 400. Unincorporated. Located 15 miles from Marshfield, 155 miles from St. Paul, 235 miles from Milwaukee. On the C., St. P., M. & O. Ry. Telegraph and telephone connections. Good freight and passenger facilities; six trains daily. American Express.

No water power; abundance of wood for fuel and manufacturing purposes; good location for a vegetable or fruit canning establishment; good clay and sand banks near by; also stone quarry; any amount of help can be secured; no electric light plant; has 1 drug store, 1 grocery store, 3 hardware stores, 2 department stores, 2 laundries, harness shop, shoe repair shop, creamery, retail lumber yard, bakery, ice house, newspaper, 2 hotels, 4 boarding houses, stock yard and 2 grain warehouses. The village has 1 physician, no lawyers; it has a graded school employing 3 teachers.

The country surrounding the village is rolling, three-fourths of which is suitable for a general farming. It is free from stone, sand and swamp, is a clayey loam; is splendid for dairying purposes.

GREENWOOD.

Greenwood, Clark Co. Population, 687. Located near the center of Clark county at the junction of the W. C. and the F. & N. W. Rys. Fairly good freight and passenger services. American and National Express. Is 24 miles from Marshfield, 216 miles from Milwaukee and 204 miles from St. Paul.

The developed water-power is estimated at 300 H. P. or less. Wood is the principal fuel, being obtained in the adjacent country. Such raw materials as fruit, vegetables, clay, sand, timber and stone can be supplied. Two-hundred laborers can be procured. The city needs a woven-wire factory of some kind. An electric light plant is being installed. The city affords 1 bank, 1 drug store, 5 groceries, 3 hardware stores, 1 department store, 4 dry-good stores, 3 physicians, 1 lawyer, a high school employing 5 teachers, 1 hotel, 3 boarding houses. An opportunity is afforded for another first-class hotel and a laundry. The surrounding country is level, the land being free from stone, swamps and sand. The soil is very fertile, and dairying is fast becoming the leading occupation of the farmer.

HUMBIRD.

Humbird, Clark Co. Population, 400. Unincorporated. Located on the C., St. P., M. & O. Ry., 126 miles from St. Paul, 38 miles from Eau Claire and 228 miles from Milwaukee. Excellent freight and passenger accommodations. American Express.

The village has a limited supply of undeveloped water power; coal from Illinois or the east is shipped in for fuel; clay, sand,

stone and vegetables can be supplied for manufacturing purposes. A salting station for pickles can be supported here; also an electric light plant, a good hotel and a number of private families to take in summer boarders. The village already has 1 bank, a creamery, a cheese factory, 1 drug store, 3 grocery stores, 2 dry-good stores, 1 laundry, 1 furniture store, 1 flour and feed store; one lumber yard, 1 potato and 1 grain ware house, and 1 meat market. It has a high school furnishing employment for 5 teachers; has two doctors.

About 90% of the land north, south and west is improved, about 40% east is improved. The land is more or less rolling but nearly all good for general farming. Trout streams abound in the surrounding country. Dairying is becoming the leading occupation of the farmers.

LOYAL.

Loyal, Clark Co. Population, 815. A thriving little village located on the W. C. Ry., 17 miles from Marshfield, 209 miles from Milwaukee and 197 miles from St. Paul. One passenger and mixed train each way daily. National Express. Poor freight and passenger accommodations.

There is no water power. Plenty of wood for fuel can be had from the surrounding country. The surrounding forest furnish large quantities of bolt timber. The sugar beet industry is rapidly coming to the front, and with better freight facilities capital could very profitably be invested in a small sugar factory. The village has an electric light plant, telegraph communications, but no telephone system. It has 1 bank, 1 drug store, 4 grocery stores, 2 hardware stores, 4 general stores, 2 stave and heading mills, 1 shingle and saw mill, and no laundry. The village supports 3 physicians, 1 lawyer, a high school employing 7 teachers, 2 good hotels, and is surrounded by fairly thickly settled, level country.

The soil is rich, free from stone and sand, very little of which is swampy.

NEILLSVILLE.

Neillsville, county seat of Clark Co. Population in 1905, 2,117. Located on the C. St. P., M. & O. Ry., 25 miles from Marshfield, 145 miles from St. Paul and 225 miles from Milwaukee. Six passenger trains daily. American Express. Good freight facilities.

Has a 300 horse water-power not yet utilized; wood is shipped in from Illinois; a large building formerly used as a washboard factory can be purchased at a very reasonable price for a vege-

table canning or pickle factory; an almost unlimited supply of good hard sandstone and granite can be quarried near the city, the latter being suitable for grave stones; plenty of help can be secured the entire year and about 100 persons between the ages of 14 and 16 years could be secured during vacation to work in a canning factory or pickling establishment. The city affords 7 physicians, 11 lawyers, and 14 teachers. It has a high school building costing \$35,000 and 2 ward schools. It also has 1 good hotels, and 2 boarding houses.

Neillsville has 2 banks, 4 drug stores, 4 groceries, 1 hardware store, 4 department stores, 1 general store, 1 laundry, 1 flour and feed store, 2 meat markets, 1 general repair shop, and 4 shoe shops.

About one-half the land of the surrounding country is suitable for farming purposes, a little rough, nearly free from stone, has but little swampy land, and some sandy soil south of town.

Neillsville was founded about fifty-six years ago, then in the heart of the lumber industry of the state. Since cutting away the timber dairying has rapidly developed. The city has about two miles of paved streets, two small parks, and many fine residences.

OWEN.

Owen, Clark Co. Population, 375. Newly incorporated. Located at the junction of the W. C. and the F. & N. E. Rys., in the northern part of Clark county. Good freight and passenger service. Is 226 miles from Milwaukee, 147 miles from St. Paul, 42 miles from Chippewa Falls and 53 miles from Eau Claire. American and National Express. Two other lines of railroad are being built.

In this village there is a good opening for a brick yard, stave and heading mill, excelsior factory, hub and spoke factory, a creamery and cheese factory. Sites for any of these can be procured at a nominal figure. Steam power would have to be used. The surrounding country furnishes an abundance of wood for fuel. Help is plentiful. Good wells furnish water for household purposes. An electric light plant is soon to be installed, and a bank is about to be opened up. The village affords 1 drug store, 1 grocery store, 1 hardware, 1 department store, 1 furniture store 2 meat markets. 1 clothing store and a lumber mill furnishing employment for about 250 men. The village has 2 physicians a graded school of three departments. 1 hotel and another is being built, and a sewage system is un-

der construction. The land surrounding the village is most excellent for farming purposes, about one-tenth of which is under cultivation. It is comparatively free of stone, is level, with but little low land, and no sand; soil is clayey loam.

THORP.

Thorp, Clark Co. Population, 873. Incorporated village. Located in the northwestern corner of Clark county on the W. C. Ry., 135 miles from St. Paul, 30 miles from Chippewa Falls, 41 miles from Eau Claire and 237 miles from Milwaukee. National Express. Good freight and passenger facilities.

Steam power would have to be used. Wood for fuel can be procured near by. Such raw materials as vegetables, berries of all kinds, clay, sand, stone, and timber can be supplied. A canning factory, and a wood working establishment are needed. The village is supplied with an electric plant, telephone system, 1 bank, 2 drug stores, 6 grocery stores, 2 hardware stores, 4 general stores, 3 mills, a stave and heading factory, 1 creamery, a cheese factory, grain elevator and warehouse. It also supports 3 physicians, 2 lawyers, a high school employing 8 teachers; it has 2 boarding houses. A first-class hotel is needed.

The surrounding country is most suitable for dairying and stock raising, lumbering and general farming. The soil is a heavy loam with clay and gravily sub-soil; two-thirds of the out-lying territory is covered with timber, such as birch, maple, basswood, elm, ash, red and white oak.

COLUMBIA COUNTY.

Columbia county is located in the south-central part of the state. The area is 776 square miles, with a population in 1905 of 31,192, a slight gain over 1900. Of this population 5,693 are foreign born, of which number over half are Germans. The farm area is 456,326 acres, which represents practically all the tillable land in the county, and together with the improvements in 1905 was valued at \$20,755,992. While the farm acreage in 1890 was nearly the same the valuation at that time was but \$12,146,891, showing an increase in value of \$8,609,101 during the 15 years, or 70%. The soil of the county is very diversified both as to quality and kind. The soil covering the north-west half of the county is sandy loam with a

considerable amount of marsh land, the latter being in the river valleys, especially along the Fox River, and of largest area in the northern part. The sandy soil of Adams county adjoining Columbia county on the north extends down into the latter for several miles. In the eastern and southern part of the county the soil is generally a clayey loam of the lighter variety shading into prairie loams at the south. There is also some prairie loam in the northeastern part of the county. The principal crops and their acreage in 1890 and 1905 were as follows.

	Acreage in 1890.	Acreage in 1905.
Wheat	21,447	2,963
Corn	44,819	61,367
Oats	46,903	62,041
Barley	23,149	11,967
Rye	10,141	10,623
Hay	58,745	51,631
Tobacco	504	2,442
Potatoes	3,876	8,532

The county occupies a foremost position in sheep-raising and woolgrowing. There are 9 cheese factories and 18 creameries in the county. For the poor and unimproved land the price ranges from \$10 to \$40 per acre, but for the improved land the average price is about \$80, although there are frequent sales at over \$120 per acre. Portage is the county seat. The population of the local divisions of the county for 1905 is given on the following page.

COLUMBUS.

Columbus, Columbia Co. Population, 238. Is an incorporated city located on the C. M. & St. P. Ry., 28 miles from Portage, the county seat, 56 miles from Madison, 65 miles from Milwaukee and 150 miles from Chicago. United States Express, Telegraph and telephone connections. Good shipping facilities and passenger service.

Columbus was settled in 1840. It has paved streets, an abundance of large shade trees, substantial business blocks and beautiful residences, is lighted by electricity, has 2 banking houses, a full line of mercantile houses, 3 hotels, a number of boarding houses, high and graded public schools employing 20 teachers, 10 churches representing all the leading religious denominations, 4 physicians, 4 lawyers, city hall and an opera house, a public library, canning factory, 2 breweries, a malt

COLUMBIA COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Arlington	164	432	361	793	792	1	.....	1	192
Caledonia	215	601	539	1,140	1,140	.....	.....	4	222
Columbus	161	396	355	750	750	.....	.....	2	177
Columbus, city:									
ward 1.....	260	294	511	905	904	1	.....	4	128
ward 2.....	188	327	367	694	684	.....	.....	6	19
ward 3.....	223	379	420	799	799	.....	.....	6	132
Total, city.....	2,388								
Courtland	181	447	368	815	814	1	.....	4	176
Cambria, village	204	319	359	678	678	.....	.....	6	115
Dekorra	189	465	396	861	861	.....	.....	8	182
Poynette, village	184	317	346	663	663	.....	.....	19	112
Pt. Winnebago	128	322	264	586	586	.....	.....	5	107
Fountain Prairie	214	541	489	1,030	1,030	.....	.....	1	202
Fall River, village.....	97	180	189	369	369	.....	.....	15	63
Hampden	173	471	368	839	839	.....	.....	3	184
Lerds	222	587	581	1,168	1,168	.....	.....	2	238
Lewiston	192	492	390	882	882	.....	.....	15	152
Lodi	156	388	329	717	712	.....	5	7	136
Lodi, village	311	490	606	1,096	1,096	.....	.....	22	167
Lowville	148	422	390	812	812	.....	.....	3	191
Marcellon	175	450	397	847	847	.....	.....	16	154
Newport	120	316	288	604	604	.....	.....	4	102
Kilbourn City, village	302	525	566	1,091	1,090	*1	.....	32	179
Otsego	254	626	568	1,193	1,193	.....	.....	4	213
Rio, village	183	306	315	621	621	.....	.....	8	126
Pacific	59	148	128	276	276	.....	.....	4	51
Portage, city:									
ward 1.....	150	311	308	619	619	.....	.....	.....	116
ward 2.....	266	515	571	1,086	1,082	4	.....	.....	191
ward 3.....	247	379	484	863	859	13	1	.....	150
ward 4.....	329	64	729	1,333	1,332	1	.....	.....	275
ward 5.....	364	780	843	1,623	1,622	1	.....	.....	282
Total, city.....	5,524							62	
Randolph	198	523	481	1,004	1,004	.....	.....	.....	179
†Randolph, vil., west ward	68	103	112	215	215	.....	.....	1	40
Scott	156	425	343	768	768	.....	.....	2	168
Springvale	149	408	322	730	730	.....	.....	1	165
West Point	153	369	339	708	707	1	.....	7	155
Wyocena	242	608	550	1,158	1,158	.....	.....	15	183
Pardecville, village ..	244	409	467	866	866	.....	.....	24	150
Total	7,269	15,773	15,419	31,192	31,172	14	6	313	5,874

†East ward in Dodge county.

*1 Chinaman.

†3 Chinamen.

house, grain elevators etc. Two English and one German newspapers are published. A first class hotel is needed.

There is a small water power in the city. Coal is used for fuel, obtained from Milwaukee and Chicago. Plenty of help can be secured in the city and surrounding country to work the entire year.

Such raw materials as fruit and vegetables can be supplied for canning purposes.

The city is surrounded by a rich agricultural section and 75

per cent of the land suitable for crop raising is improved. All of the land is level and free from stone and the soil is very productive.

FALL RIVER.

Fall River, Columbia Co. Population, 369. An incorporated village located on the C. M. & St. P. Ry., 25 miles from Portage, 62 miles from Madison, 68 miles from Milwaukee and 153 miles from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Help can be secured for factory work. The village is supplied with a bank, drug store, 2 groceries, 1 hardware and 2 general stores, graded public school employing 3 teachers, Baptist and Methodist Episcopal churches, 1 hotel, 2 boarding houses, a physician, bakery, grain elevator, lumber yard, 3 potato warehouses, grist mill and a creamery. A first-class hotel is needed.

Wood and coal are used for fuel. Wood is obtained from the adjoining country and coal from Milwaukee and Chicago. Vegetables and perhaps other raw material can be furnished for canning purposes.

The surrounding country is a rich agricultural section and all the land suitable for crop raising is improved. There is but very little stone; about 5% of the soil is sandy and 85% level and free from stone.

KILBOURN CITY.

Kilbourn City, Columbia Co. Population, 1,091. A village on the C. M. & St. P. Ry., and Wisconsin river, 17 miles from Portage, the judicial seat, 108 from La Crosse, 54 from Madison, 110 from Milwaukee and 195 from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has an electric light plant, 1 bank, 2 drug stores, 7 grocery stores, 2 hardware stores, 2 department stores, 4 dry goods stores, shoe store, laundry, high school employing 7 teachers. 5 hotels able to accommodate 250 persons, 5 boarding houses with a capacity for 150 boarders. 2 lawyers, 7 physicians, 7 churches, 3 weekly newspapers. Has no gas plant or electric railway connections.

Wisconsin river furnishes an abundance of water power for manufacturing purposes, there being 5000 H. P. not yet utilized. Wood and Coal are used for fuel. Wood is obtained from the adjacent country and coal is obtained from Milwaukee and Chicago. Plenty of help can be secured in the city and surrounding country to work the entire year. The country can supply such raw materials as fruit and vegetables for canning and the village can be supplied with clay, sand, peat, stone and timber.

Kilbourn is beautifully situated at the Dells of the Wisconsin river and is a favorite summer resort for tourists and pleasure seekers. Has beautiful shady streets, substantial business blocks, and many fine residences. Stage daily to Baraboo and Friendship. The village is in need of a first class summer hotel. A canning factory would be best suited to the needs of the village at the present time. A paper mill would be a good investment if the water power is utilized.

The country surrounding the village is good for farming purposes, and from 50 to 60% of the land suitable for crop raising is improved. The soil is a light, sandy loam. About 20% of the land is rough, principally along the Wisconsin river; a very small part is swampy and the greater part is level and free from stone.

LODI.

Village of Lodi, Columbia Co. Population, 1,096. On the C. & N. W. Ry., 19 miles from Madison, 102 miles from Milwaukee and 149 miles from Chicago. American Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has an electric light plant, 2 banks, 2 drug stores, 1 grocery store, 4 hardware stores, 3 dry goods stores, 1 laundry, 2 hotels capable of accommodating 80 people, 3 boarding houses, 3 physicians, 2 lawyers, good schools employing 10 teachers, 2 furniture stores, 2 music stores, 6 restaurants, bakery, jewelry store, cold storage, 3 blacksmith shops, 2 meat markets, a tobacco warehouse, 5 churches and a weekly newspaper.

Wood and coal are used for fuel; wood is obtained from farmers in the surrounding country and coal is shipped in. Considerable help can be secured in the village and adjacent country to work the entire year. Raw materials such as fruit, vegetables and corn can be furnished for canning. The natural products of the country are clay, sand, timber and stone.

A shoe factory and a canning factory are needed.

The surrounding country is good for farming purposes, and about 75% of the land suitable for crop raising is improved. One-fourth of the land is rough, one-eighth swampy, one-eighth sandy and the remainder is level and free from stone. The soil is fertile, making this an important agricultural and stock raising section.

PARDEEVILLE.

Pardeeville, Columbia Co. Population, 866. A village on the C. M. & St. P. Ry., and on the Fox river, 9 miles from Portage, 46 miles from Madison, 89 miles from Milwaukee and 174 miles from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has an electric light plant, 1 bank, 2 drug stores, 6 grocery stores, 1 hardware store, 1 department store, 3 dry goods stores, 1 laundry, a graded public school employing 8 teachers, 3 hotels with a total capacity for 150 guests, 2 physicians, 5 churches, a weekly newspaper, 3 potato warehouses, 1 commission merchant handling poultry and eggs, furniture store and a farm implement store.

Wood and coal are used for fuel. The Fox river at this point affords good water power for manufacturing purposes and there are 200 or 300 horse power, not yet utilized. Plenty of help can be secured in the village and surrounding country to work the entire year. Such raw materials as fruit and vegetables can be furnished for canning. The natural products of the country are clay, sand, peat, stone and timber. Great beds of marl are located near the village. A first-class hotel is needed.

The country surrounding the village is good for farming purposes and the land suitable for crop raising is nearly all improved. The soil is admirably adapted to the production of cucumbers.

PORTAGE.

Portage, Columbia Co. Population, 5,524. Is an incorporated city located on the C. M. & St. P. and the W. C. Rys., in the northwestern part of Columbia county, of which it is the judicial seat, 37 miles from Madison, 93 miles from Milwaukee and 178 miles from Chicago. United States and National Express. Telegraph and telephone connections. Excellent shipping facilities and passenger service.

The site of the city was known as the Portage at a very early day, and was used by the Indians and others to convey the canoes and boats from one river to the other. A government canal now connects the Fox and Wisconsin rivers at this point. The city is supplied with a good system of water works, is lighted by electricity, has a well equipped fire department, paved streets, nice shade trees, public parks, shady drives, and good public buildings. Has 2 banks, 3 drug stores, groceries, hardware, dry goods and clothing stores, a laundry, 6 hotels, 3 boarding houses, fine educational advantages, 10 churches representing the leading religious denomi-

nations, 8 physicians, 6 lawyers, 2 restaurants, 3 bakeries, 2 harness shops, 2 wagon repair shops, underwear factory, hosiery factory, sash, door and blind factory, foundry, tobacco warehouse, pickle salting station, and a flour mill. Two daily and 3 weekly newspapers are published.

Steam power is used. Coal and wood are used for fuel. Wood is obtained from the adjacent country and coal from Milwaukee. Fruit and vegetables can be supplied for canning. The city can be supplied with clay, sand, timber and stone. Almost any amount of help can be secured in the city and adjacent country. There are large deposits of glass sand and marl in the immediate vicinity.

Some parts of the surrounding country are good for agricultural purposes, especially the high lands. The low lands are marshy and are used largely as grass lands. The soil is a sandy loam and the land is mostly level and free from stone.

POYNETTE.

Poynette, Columbia Co. Population, 663. An incorporated village located on the Madison branch of the C. M. & St. P. Ry., 12 miles from Portage, 25 miles from Madison, 107 miles from Milwaukee and 192 miles from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has a bank, 2 drug stores, 1 grocery, 2 hardware and 3 general stores, 2 millinery stores, 2 hotels, high school, employing 6 teachers, Methodist and Presbyterian churches and a Presbyterian academy, 3 physicians, 1 lawyer, furniture store, meat markets, blacksmith shops, etc. A weekly newspaper is published. A first-class hotel is needed.

Wood and coal are used for fuel. Some wood is obtained from the surrounding country, and coal is shipped in. There is no water power. A limited amount of help could be secured in the village and adjacent country. Good location for a canning factory.

The surrounding country is good for farming purposes and about two-thirds of the land suitable for crop raising is improved. The country north of the village is rough, soil stony and sandy. South and east is hilly, soil black loam, all stony.

RANDOLPH.

Village of Randolph, Columbia Co. Population, 818.* On the C. M. & St. P. Ry., in Columbia and Dodge counties, 24 miles from Portage, 61 miles from Madison, 74 miles from Milwaukee and 169 miles from Chicago. United States Express. Telegraph and telephone connections.

Has a bank, 2 drug stores, 6 grocery stores, 3 hardware stores, 5 dry goods stores, high school employing 6 teachers, 2 physicians, 1 lawyer, 1 hotel, 1 boarding house, 4 churches, a weekly newspaper, canning factory, roller flour mill, wagon shop and blacksmith shop.

Wood is used for fuel and is obtained from the adjacent country. Considerable help can be obtained in the village and surrounding country. Vegetables can be supplied for canning purposes. The village can be supplied with sand, peat, timber and stone. Is in need of a first-class hotel, and a creamery or cheese factory.

The country surrounding the village is good for farming purposes, and the land suitable for crop raising is nearly all improved.

RIO.

Rio, Columbia Co. Population, 621. An incorporated village on the C. M. & St. P. Ry., 14 miles from Portage, the county seat, 51 miles from Madison, 79 miles from Milwaukee and 164 miles from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has electric lights, a bank, 2 drug stores, 1 grocery, 2 hardware stores and 2 general stores, graded public school employing 4 teachers, 2 churches, 2 physicians, a lawyer, 2 hotels, 2 grain elevators, meat market, blacksmith shop, harness shop, furniture store, tobacco warehouse, and a livery barn. Two weekly newspapers are published.

Wood and coal are used for fuel. Wood is obtained from adjacent country and coal from Milwaukee. Help can be secured in the village and surrounding country to work the entire year.

The village is in need of a first class hotel and a canning factory.

The surrounding country is good for farming purposes and all of the land suitable for crop raising is improved. The character of the soil is about 10 per cent rough, 40 per cent sandy and 50 per cent level and free from stone. The principal farm products are grain, live stock, potatoes and leaf tobacco. Large shipments

*215 in Columbia Co. and 603 in Dodge Co.

of leaf tobacco are made from the village each year, and many car loads of potatoes and beans are marketed there. From 30 to 50 women and girls are employed at cleaning or hand picking beans.

WYOCENA.

Wyocena, Columbia Co. Population, 400. An unincorporated village located on the C. M. & St. P. Ry., 7 miles from Portage, the county seat and banking point, 46 miles from Madison, 84 miles from Milwaukee and 196 miles from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village is supplied with electric lights, shade trees, cement walks, a drug store, 1 grocery, and 2 general stores, laundry, one hotel, graded public school employing 4 teachers, Baptist and Congregational churches, a physician, village hall, grain and potato warehouses, and a lumber yard. The county insane asylum and almshouse are located near the village.

Is in need of a first class hotel. Good location for a canning factory.

A limited amount of help can be obtained in the village and adjacent country. A canning factory can be supplied with vegetables. The village can be supplied with clay, sand, stone, timber, peat and marl.

The country surrounding the village is good for farming purposes and about 80 per cent of the land suitable for crop raising is improved. About 20 per cent of the land is marshy.

CRAWFORD COUNTY.

Crawford county is located in the southwestern part of the state on the Mississippi and Wisconsin rivers. The area is 557 square miles. The population is 1905 was 16,926, of which number 2,392 were foreign born. The principal nationalities represented and their order are as follows: Norwegians, Bohemians and Germans. The farm acreage in 1905 was 329,363 acres, of which 139,180 acres were improved land. The value of the farms and improvements was \$6,979,206. In 1890 there were 286,443 acres in farms worth, including improvements, \$2,927,300. The soil in the eastern part of the county from the Kickapoo river to the boundary, is a clayey loam of the medium and heavier varieties well adapted to general farming. In the western part along the Mississippi river and in the southern

part along the Wisconsin river the soil is mainly a sandy loam. The central part of the county between the sandy loam and Kickapoo river is covered with a light variety of clayey loam. There is some swampy land along the Wisconsin river. The land is quite generally broken up into ridges and hills, leaving a rather rough and irregular surface. Some of the hills rise to a height of several hundred feet above the surrounding land. The principal crops and acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	12,807	3,806
Oats	26,097	26,156
Barley	903	1,986
Corn	18,152	21,133
Hay	25,100	33,398

Barley, clover seed and timothy seed are also important crops. Wool-growing is an important source of farm income. The county possesses 15 cheese factories and 11 creameries. The price for unimproved land ranges from \$5 upward, depending upon location and the quality of soil. The sales of improved farm lands indicate a range in prices of from \$30 to \$100 per acre. Prairie du Chien is the largest city and county seat. The table on the following page shows the population of the cities, villages and towns in the county for 1905.

BRIDGEPORT.

Bridgeport, Crawford Co. Population, 200. Not incorporated. On the C. M. & St. P. Ry., 7 miles from Prairie du Chien, the county seat, and the nearest banking point, 66 miles from La Crosse, 60 from Dubuque, 91 from Madison, 173 from Milwaukee and 250 from Chicago. United States Express.

Has 1 general store and 1 flour and feed store, hotel, public school employing 1 teacher, 3 churches; stage daily to Patch Grove and Bloomington.

Wood and coal are used for fuel; the former is obtained from the country surrounding the village and the latter is shipped in. There is a small water power not developed. A limited amount of help can be secured in the village and surrounding country. Such raw material as fruit, and vegetables could be furnished for canning. The natural products are clay, sand, timber and stone.

CRAWFORD COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Bridgeport	66	185	151	342	342	.....	.....	1	78
Clayton	512	846	713	1,599	1,519	.....	.....	22	278
Gays Mills, village.....	35	211	216	427	427	.....	.....	11	92
Soldiers Grove, village	29	196	323	718	718	.....	.....	9	132
Eastman	273	744	657	1,401	1,411	.....	.....	9	272
Freeman	275	718	684	1,402	1,402	.....	.....	12	275
*De Soto, village	20	35	45	80	80	.....	.....	1	1
Haney	151	336	329	715	715	.....	.....	11	121
Bell Center, village.....	49	126	114	240	240	.....	.....	10	26
Marietta	113	309	406	975	975	.....	.....	22	131
Steuben, village	67	150	125	275	275	.....	.....	5	68
Prairie du Chien	107	312	269	581	581	.....	.....	3	60
Prairie du Chien, city:									
ward 1.....	113	218	267	555	585	.....	.....	.....	.....
ward 2.....	247	472	611	1,083	1,083	.....	.....	.....	.....
ward 3.....	267	564	629	1,193	1,193	.....	.....	.....	.....
ward 4.....	69	150	168	318	318	.....	.....	.....	.....
Total, city.....	3,179							44	510
Scott	178	498	432	930	930	.....	.....	21	135
Seneca	229	613	571	1,184	1,184	.....	.....	11	225
Lynxville, village	79	221	163	384	384	.....	.....	11	62
Utica	302	738	714	1,452	1,452	.....	.....	21	303
Wauzeka	92	276	237	513	513	.....	.....	5	98
Wauzeka, village	111	216	233	449	449	.....	.....	5	92
Total	3,498	8,783	8,143	16,926	16,926	.....	.....	234	3,013

*Part in Vernon county.

The country surrounding the village is good for farming purposes, and a large per cent of the land suitable for crop raising is improved. The soil is a rich clay loam; about 60% of the land is rough, 10 per cent swampy, 10 per cent sandy and the remainder level and free from stone. Dairying is an important industry and the village is in need of a creamery or cheese factory.

GAYS MILLS.

Gays Mills, Crawford Co. Population, 427. On Western Wisconsin Ry., 43 miles from Prairie du Chien, the county seat, 102 miles from La Crosse, 96 miles from Dubuque, 105 miles from Madison, 185 from Milwaukee and 270 from Chicago. U. S. Express. Telephone connections. Fair shipping facilities and passenger service.

Has electric lights, a bank, 1 drug store, 4 grocery stores, 2 hardware stores, 2 dry goods stores, 2 physicians, 1 lawyer, graded school employing 3 teachers, and 2 hotels.

The Kickapoo river at this point furnishes a water power estimated at 100 h. p., not yet utilized for manufacturing purposes. Wood is used for fuel, obtained from adjacent country. Help

can be secured in the village and surrounding country to work the entire year. Raw material such as fruit and vegetables can be supplied for canning, and the natural products are clay, sand, stone and timber. A canning factory and a wood working establishment would be especially adapted to the wants of the village.

The country surrounding this village is mostly rough, but the soil is very rich and productive. About 40 per cent of the land suitable for crop raising is improved. Crops of all kinds do well in this section and a fine quality of tobacco is produced.

MT. STERLING.

Mount Sterling, Crawford Co. Population, 200. Not incorporated. Situated 28 miles northeast of Prairie du Chien, the county seat, and 15 miles from Gays Mills on Wisconsin Western Ry., the nearest banking and shipping point, 109 miles from Madison, 139 miles from Milwaukee and 274 miles from Chicago.

Has a telephone system, 3 grocery stores, 3 hardware stores, 2 dry goods stores, graded school employing 2 teachers, 1 hotel, 3 boarding houses, 1 physician, Congregational and Methodist churches.

There is a small undeveloped water power estimated at 25 h. p., that could be utilized for manufacturing purposes. Wood is used for fuel and is obtained from the adjacent country. Some help can be secured from the village and surrounding country to work the entire year. The country can supply fruit and vegetables for canning purposes and the natural products are clay, sand, stone and timber. The village is in need of a creamery or cheese factory.

The surrounding country is good for farming purposes and about two-thirds of the land suitable for crop raising is improved. The land is rough, with no swamps and but very little sand, and the soil is rich and productive.

PRAIRIE DU CHIEN.

Prairie du Chien, Crawford Co. Population, 3,179. The judicial seat of Crawford county is located on the C. M. & St. P. and the C. B. & Q. Ry., and on the Mississippi river, 47 miles from Dubuque, 57 from La Crosse, 98 from Madison, 183 from Milwaukee and 268 from Chicago. U. S. and Adams Express. Telegraph and telephone connections. Extra good shipping facilities and passenger service.

This city is one of the oldest settlements in Wisconsin. It occupies a splendid commercial position, the river and railway lines affording transportation to all parts of the United States. Has paved streets, many fine shade trees, substantial business blocks and public buildings. Is lighted by electricity, has

water works and a fire department, 2 banks, a full complement of stores and shops, good high and graded public schools, 5 churches representing all the leading religious denominations, good hotels, a free public library, good county buildings, a theological seminary, the St. Mary's academy for girls and the Sacred Heart academy for boys. Four weekly papers are published. The city is a popular summer resort. Its artesian mineral wells, the waters of which contain valuable curative properties, give the city an added attraction to visitors and bring many invalids. A large first class hotel is needed.

Overall, stove, woodenware, cement block, beet sugar, button and canning factories, and a tobacco warehouse would meet the industrial needs of the city.

Wood and coal are used for fuel. Wood can be obtained from the adjacent country and coal is shipped in. The river affords an undeveloped water power for manufacturing purposes. A large amount of help can be secured from the city and adjacent country to work the entire year. Such raw materials as fruit, vegetables and fish can be furnished for canning and the city is considered a good location for a canning factory. The natural products of the country are clay, sand, stone and timber, all of which can be furnished in large quantities.

The country surrounding the city is well adapted to farming purposes and nearly all the land suitable for crop raising is improved. The soil produces a high grade of leaf tobacco. Dairying is an important industry.

SOLDIERS GROVE.

Soldiers Grove, Crawford Co. Population, 718. On the Wisconsin Western Ry., 52 miles from Prairie du Chien, 111 miles from La Crosse, 111 miles from Madison, 194 miles from Milwaukee and 279 miles from Chicago. United States Express. Telephone. Fair shipping facilities and passenger service.

Has an electric light plant, a bank, 2 drug stores, 3 grocery stores, 3 hardware stores, 6 general stores, high school employing 6 teachers, 3 physicians, weekly newspaper, 1 lawyer, 2 hotels, 2 boarding houses, excelsior factory, grist mill, saw and planing mill, 3 blacksmith shops, jewelry store, 2 butcher shops, 3 tobacco warehouses and a creamery.

There is a water power estimated at 200 h. p., not developed. Wood is used for fuel, obtained from the adjacent country at very reasonable prices. Plenty of help can be secured in the village and surrounding country to work the entire year. Fruit and vegetables could be furnished for canning purposes if a

market was established. Clay, sand, stone and hardwood timber are the natural products, and can be supplied in large quantities. A large quarry of valuable building stone is located near the village. Is in need of a first-class hotel, canning factory and a wood-working establishment.

The country surrounding the village is good for farming purposes and about 50 per cent of the land suitable for crop raising is improved. The soil is a rich clayey loam, a little sandy in the valleys but very productive. The country is broken and rolling, about 25 per cent being level and free from stone. The soil produces a very high grade of leaf tobacco. Dairying is an important industry.

STEBEN.

Steben, Crawford Co. Population, 300. On the Wisconsin Western Ry., and Kickapoo river, 26 miles from Prairie du Chien, 85 miles from La Crosse, 18 miles from Madison, 168 miles from Milwaukee and 253 miles from Chicago. United States Express. Telephone. Fair shipping facilities and passenger service.

Has a general store, a physician, graded school employing 2 teachers, 1 hotel, and a blacksmith and wagon shop.

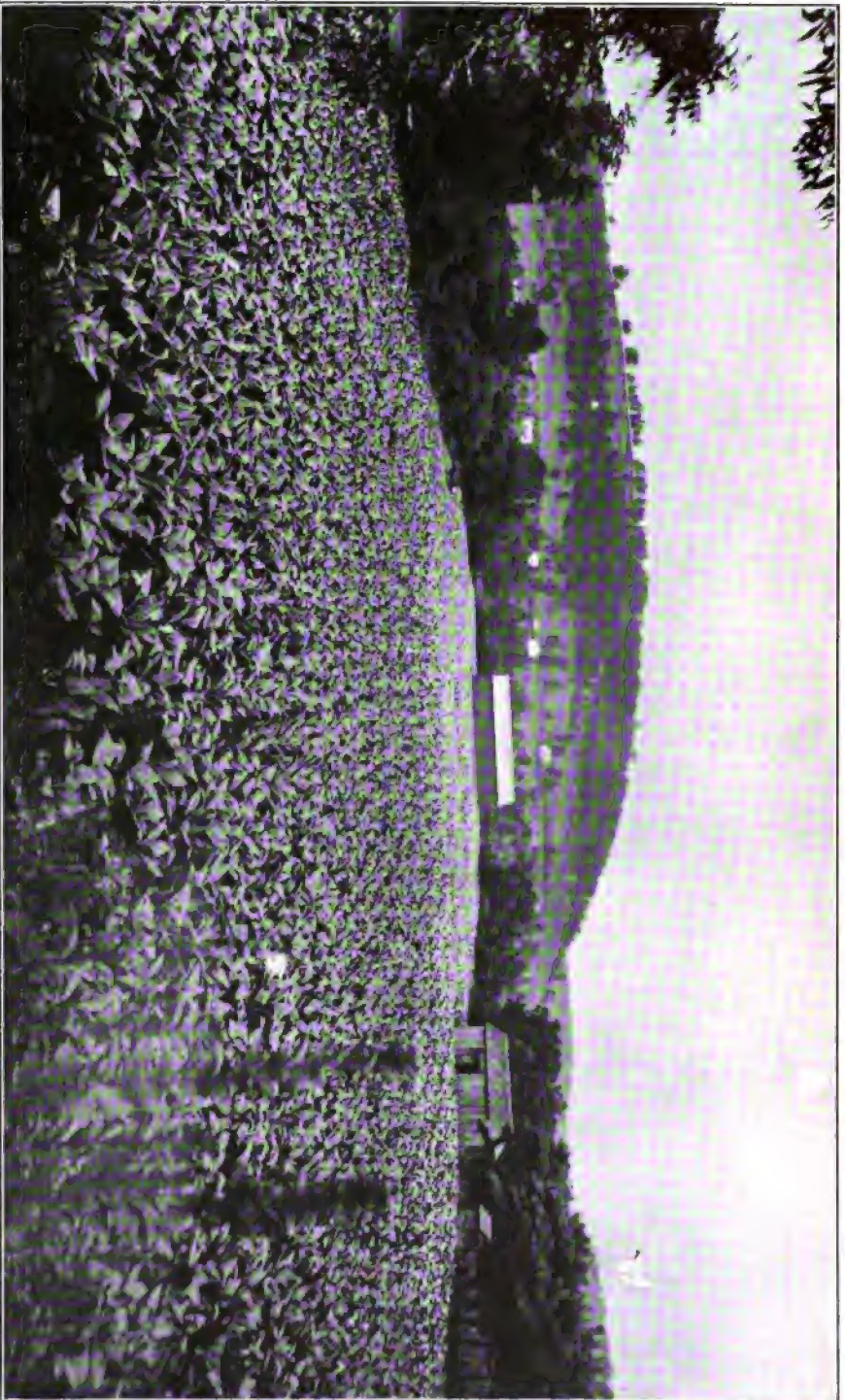
Wood is used for fuel, obtained from the adjacent country. The Kickapoo river will furnish an abundance of water power when developed. Plenty of help can be secured in the village and adjacent country to work the entire year. The natural products of the surrounding country are clay, sand, stone and timber. The village is in need of another hotel. There is a good grist mill site here as it is 12 miles to the nearest mill. Good location for a general store.

The country surrounding the village is good for farming purposes and about 60 per cent of the land suitable for crop raising is improved. The soil is a sandy loam in the valleys and a clayey loam on the elevations. About 40 per cent of the country is rough with 5 per cent level and stony and 5 per cent swamps. Dairying is an important industry.

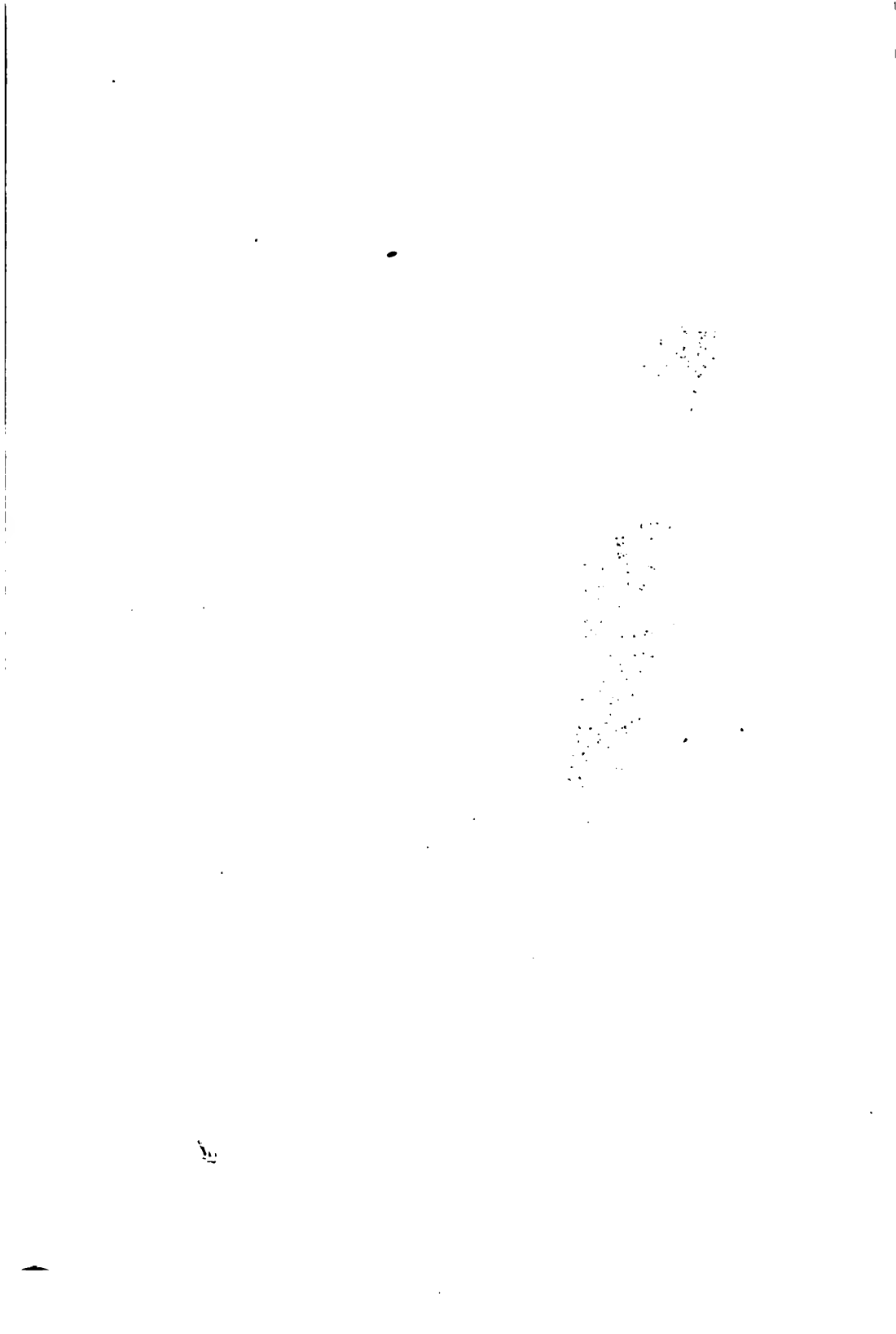
WAUZEKA.

Wauzeke, Crawford Co. Population, 449. On the C. M. & St. P. Ry., and the Wisconsin river. Also southern terminus of the Wisconsin Western Ry., 77 miles from La Crosse, 71 miles from Dubuque, 80 miles from Madison, 160 miles from Milwaukee and 245 miles from Chicago. U. S. Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has 1 bank, 1 drug store, 3 grocery stores, 2 hardware stores, 2 general stores, 1 millinery store, graded school em-



TYPICAL WISCONSIN TOBACCO FIELD
Crop as shown growing on the farm of Governor Davidson, at Soldiers Grove, Crawford County



ploying 4 teachers, 2 hotels, 2 boarding houses, 1 physician, blacksmith and wagon shop, cold storage plant, flour mill, weekly newspaper and 3 churches.

The Kickapoo river furnishes a water power estimated at 50 h. p., not developed. Help can be secured in the village and adjacent country to work the entire year. Raw materials such as fruit and vegetables can be furnished for canning as soon as a demand is created. Clay, sand, stone, peat, and timber are the natural products. Two large stone quarries situated within one mile of the railway station furnish a fine grade of building stone. The village is in need of a canning factory, an excelsior mill and a tobacco warehouse.

The country surrounding the village is good for farming purposes and about 70 per cent of the land suitable for crop raising is improved. The soil is a black loam with but very little sand. A small portion of the river valley is swampy. A large per cent of the land is rough but very fertile, producing fine crops of hay, grain of all kinds, corn and tobacco.

DANE COUNTY.

Dane county is located in the south central part of the state. It is one of the largest and wealthiest counties in the state. It has an area of 1,188 square miles. The population in 1905 was 75,457, a gain of 6,022 over 1900. It is the second county in the state in population. About one-fifth of the population is of foreign birth, of which Norwegians and Germans are by far the most numerous. The total farm area in 1905 was 713,142 acres, embracing the entire tillable area of the county. Of this acreage, 517,938 acres were improved. The value of the farms in 1905 including improvements was \$45,341,857 as compared with only \$26,375,804 in 1890, or a gain of over 70 per cent in 15 years. The western part of the county has a rough topography resulting from stream erosion. The soil in the northern part of this district, bordering upon the Wisconsin river, is a sandy loam, which gives way to the south to a clayey loam of the lighter varieties with some prairie loam. The surface of the remaining part of the county is rolling and hilly. Traversing the county from the Wisconsin river, in a southeasterly

direction is a broad sandy tract, widening in the southern part in the vicinity of Brooklyn. The soil in the north central part is a prairie loam, while that covering the remaining part of the county is a light clayey loam. In the eastern part of the county and north of Madison are numerous irregular tracts of humus soils composed mostly of muck and peat. The principal crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	95,352	111,724
Barley	30,014	19,266
Rye	5,025	4,229
Corn	91,581	110,168
Hay	105,617	101,658
Tobacco	9,306	12,925

It is the greatest tobacco producing county in the state and ranks as one of the foremost in the United States. The raising of sugar beets is becoming an important part of Dane county agriculture, in some regions even supplanting tobacco, the acreage devoted to this purpose in 1905 being 2,274 acres. It is also one of the foremost dairying counties. In 1905 there were 71 cheese factories and 63 creameries in the county. The price of unimproved land ranges from \$50 to \$80 per acre. For improved farm land the sale price ranges from \$75 to \$150 per acre. Madison is the county seat. The population of the local political divisions for 1905 will be found on the following page.

BELLEVILLE.

Belleville, Dane county, is an incorporated village of 423 inhabitants, located on the Illinois Central Ry., 156 miles from Chicago, 100 miles from Milwaukee and 18 miles from Madison; facilities for the receipt and shipment of freight good; American express.

Has a good supply of water power. Coal is used for fuel, being shipped in from Illinois and Indiana. Such raw materials as milk, sand, peat, stone and gravel can be supplied. A limited amount of help can be procured. A condensed milk factory, or shoe factory would no doubt do well here. The village has an electric light plant, a telephone system, two banks, one drug store, two grocery stores, two hardware stores, two dry goods stores, one harness shop, two butcher shops, two warehouses, one furniture store, an undertaking establishment, one restaurant and two hotels. Three physicians and one lawyer

DANE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Albion.....	329	826	713	1,539	1,539	.....	.....	16	315
Berry.....	177	476	409	885	885	.....	.....	7	182
Black Earth.....	77	192	180	372	352	.....	.....	3	85
Black Earth, village.....	138	226	249	475	475	.....	.....	11	58
Bloomington.....	353	891	788	1,679	1,678	1	.....	8	356
Blue Mounds.....	211	574	511	1,085	1,085	.....	.....	8	201
Mt. Horeb, Village.....	243	482	521	1,003	1,003	.....	.....	9	182
Bristol.....	229	622	564	1,186	1,186	.....	.....	3	227
Burke.....	239	682	522	1,204	1,204	.....	.....	3	305
Christiana.....	308	940	791	1,731	1,730	1	.....	5	386
Cambridge, village.....	142	276	297	573	593	.....	.....	3	101
Cottage Grove.....	265	696	612	1,310	1,310	.....	.....	7	303
Cross Plains.....	227	602	556	1,158	1,158	.....	.....	5	196
Dane.....	171	487	425	912	912	.....	.....	2	199
Dane, village.....	32	142	146	288	288	.....	.....	.....	87
Deerfield.....	193	567	466	1,033	1,033	.....	.....	3	203
Deerfield, village.....	125	289	298	587	587	.....	.....	5	120
Dunkirk.....	258	776	617	1,393	1,393	.....	.....	6	313
Dunn.....	244	628	574	1,202	1,202	.....	.....	5	230
Fitchburg.....	199	508	433	941	938	5	.....	10	201
Madison.....	302	782	756	1,538	1,537	1	.....	8	282
Madison, city:									
ward 1.....	379	991	1,049	2,040	2,011	129	.....	.....	.....
ward 2.....	659	1,340	1,468	2,808	2,795	13	.....	.....	.....
ward 3.....	408	966	799	1,765	1,752	13	.....	.....	.....
ward 4.....	518	1,115	1,290	2,405	2,397	3	5	.....	.....
ward 5.....	788	2,556	2,000	4,556	4,545	11	.....	.....	.....
ward 6.....	856	2,024	1,901	3,925	3,916	9	.....	.....	.....
ward 7.....	488	1,066	1,075	2,171	2,169	2	.....	.....	.....
ward 8.....	505	1,281	1,218	2,499	2,483	16	.....	.....	.....
ward 9.....	372	799	754	1,553	1,547	6	.....	.....	.....
ward 10.....	117	271	308	579	579	.....	.....	.....	.....
Total, city.....	24,301	.....	.....	.....	.....	.....	.....	152	6,790
Mazomanie.....	101	218	224	442	442	.....	.....	3	77
Mazomanie, village.....	253	383	480	863	863	.....	.....	23	136
Medina.....	199	510	457	967	966	1	.....	2	173
Marshall, village.....	128	223	241	464	464	.....	.....	14	74
Middleton.....	216	554	487	1,041	1,011	.....	.....	2	196
Middleton, village.....	142	256	288	544	543	1	.....	2	90
Montrose.....	203	510	468	978	978	.....	.....	9	210
Belleville, village.....	106	204	219	423	423	.....	.....	7	86
Oregon.....	197	446	396	814	844	.....	.....	2	171
Oregon, village.....	194	337	366	703	703	.....	.....	12	119
Perry.....	198	548	513	1,061	1,061	.....	.....	7	171
Primrose.....	146	423	358	781	781	.....	.....	3	174
Pleasant Springs.....	255	789	595	1,384	1,384	.....	.....	5	330
Roxbury.....	185	464	481	945	915	.....	.....	6	182
Rtland.....	234	631	561	1,192	1,191	.....	.....	4	267
Brooklyn, vill., part of *.....	27	41	57	98	96	.....	.....	.....	14
Springdale.....	214	576	525	1,101	1,101	.....	.....	4	226
Springfield.....	188	567	495	1,062	1,062	.....	.....	4	200
Stoughton, City:									
ward 1.....	205	484	504	998	968	.....	.....	.....	.....
ward 2.....	274	671	612	1,283	1,282	1	.....	.....	.....
ward 3.....	250	577	571	1,148	1,148	.....	.....	.....	.....
ward 4.....	202	386	439	825	825	.....	.....	.....	.....
Total, city.....	4,244	.....	.....	.....	.....	.....	.....	30	929
Sun Prairie.....	211	526	492	1,018	1,018	.....	.....	4	221
Sun Prairie, village.....	321	514	572	1,086	1,086	.....	.....	22	172
Verona.....	247	668	612	1,280	1,280	.....	.....	15	198
Vermont.....	151	388	375	763	763	.....	.....	4	140
Vienna.....	192	554	491	1,045	1,044	1	.....	.....	242
Westport.....	189	829	658	1,487	1,487	.....	.....	3	162
Waunakee, village.....	118	230	235	465	465	.....	.....	6	89
Winifred.....	296	815	660	1,475	1,575	.....	.....	9	312
DeForest, village.....	115	222	231	453	453	.....	.....	.....	101
York.....	173	479	394	873	873	.....	.....	.....	216
Total.....	15,617	39,128	36,329	75,457	75,338	114	5	484	16,940

* Part in Green county.

1 8 Chinamen.

2 4 Chinamen.

3 1 Japanese.

are located here. The village supports an accredited high school employing six teachers; it also has two churches and an opera house. A weekly newspaper is published.

The land of the surrounding country is excellent for farming purposes, very little of which is stony or swampy; a little sandy south of the village; ninety per cent is free from stone. Most of the land suitable for general farming purposes is improved.

CAMBRIDGE.

Cambridge, Dane Co., is an incorporated village of 573 inhabitants located on the C. & Lake Superior Ry., a spur three miles long connecting with the C. & N. W. Ry., at London; is 24 miles from Madison, 64 miles from Milwaukee and 140 miles from Chicago; good freight and passenger accommodation; American express.

A small water power could be developed here. Such raw materials as fruit, vegetables, clay, sand and stone can be supplied and 120 laborers secured. An electric light plant could be profitably maintained here also a first-class hotel. The village supports 2 banks, 2 drug stores, 2 hardware stores, 5 groceries, 4 general stores, 1 jewelry store, 1 restaurant, 2 shoe stores, 1 clothing store, 3 barber shops, 2 blacksmith shops, 1 livery and feed stable, 1 furniture store, 2 grist mills, 1 plumbing establishment, 1 lumber yard, 1 stock yard, 1 bowling alley, 1 creamery, 1 large tobacco warehouse, 1 printing office, 1 implement dealer, 1 dentist, 4 physicians, a high school employing 6 teachers, 2 parks, and 5 churches. Beautiful Lake Ripley is a half mile distant. The farm lands of the surrounding country are excellent for both dairying and general farming.

COTTAGE GROVE.

Cottage Grove, Dane Co., an unincorporated village of 250 population, is located on the C. & N. W. Railroad; 142 miles from Chicago, 71 miles from Milwaukee and 11 miles from Madison; has eight passenger trains daily, excellent freight facilities and American Express.

Wood, the principal fuel, is obtained from the farmers. Such raw materials as vegetables, sugar beets, clay, sand, some timber and stone can be supplied. Any amount of help can be procured. A small canning factory would no doubt be successful at this place.

The village has two grocery stores, one hardware store, one hotel and a small boarding house. There are two physicians located here. There is a good opening here for a druggist, tailor, jeweler, and tobacco buyer.

The surrounding country is most excellent for farming purposes, level, free from swamps, sand and stone. Tobacco raising is the leading industry of the farmers. Sugar beets are being cultivated more extensively every year.

CROSS PLAINS.

Cross Plains, Dane Co., is an unincorporated village of about 400 inhabitants located on the C. M. & St. P. Railroad, 111 miles from Chicago and 15 miles from Madison; facilities for shipment and receipt of freight are very good; U. S. Express.

Steam power would have to be used for any industry requiring power. Such raw materials as vegetables, clay, sand, stone and lime-stone can be supplied; and plenty of help can be procured. A brick yard and lime kiln would do well here. The village is also in need of a tin shop. The village has 1 bank, 2 drug stores, 3 hardware stores, 3 general stores, a laundry, several groceries, an elevator, lumber yard, stock yards, 4 blacksmith shops, furniture store, meat market, 2 large halls, 4 shoemaker shops, a harness shop and a hotel. Another hotel is desired. The village supports a school employing 6 teachers; has 2 physicians and 1 lawyer.

The land of the surrounding country is very fertile and is nearly all suitable for farming purposes, two-thirds of which is improved. There is some sandy land, some swampy but none stony. One-half of the land is level and free from any stone whatever.

DE FOREST.

De Forest, Dane Co., is an incorporated village of 453 people; is located on the C. M. & St. P. Railroad, 144 miles from Chicago, 95 miles from Milwaukee and 13 miles from Madison. Facilities for receipt and shipment of freight, good; has four passenger trains daily; U. S. Express.

Steam power would have to be used. Coal is procured from Illinois. Such raw materials as fruit, sugar beets and clay can be supplied, and any amount of help can be procured. An electric light plant could be supported at this place. The village has 1 bank, 1 drug store, 4 groceries, 2 hardware and 4 general stores; also 2 hotels, 2 boarding houses and a public school employing 6 teachers. Has a weekly newspaper. A creamery was once established here, but failed.

The surrounding country is excellent for farming purposes,

the soil being a rich loam, free from stone and sand, and with but a small part swampy.

MCFARLAND.

McFarland, Dane Co., is an incorporated village of about 300 inhabitants; located on the C. M. & St. Paul Railroad, 6 miles from Madison, 10 miles from Stoughton, 90 miles from Milwaukee and 130 miles from Chicago; U. S. Express.

Coal and wood are shipped in, the former from Illinois, the latter from the northern and western parts of the state. Such raw materials as vegetables, clay, sand and stone can be supplied; also plenty of help can be secured. The village has 1 bank, 4 general stores, 1 hardware store, a tailor shop, furniture store, meat market, 2 farming implement establishments, 1 hotel, 1 boarding house and a graded school. There is 1 physician and 1 lawyer located here. It is rapidly growing in popularity as a summer resort, having about 40 cottages and a lake nearby.

The soil of the surrounding country is a clayey loam, gently rolling, nearly all tillable, except a little marshy land here and there.

MADISON.

Madison, Dane Co. Population, 24,301. Situated between Lakes Monona and Mendota, 81 miles from Milwaukee, 138 miles from Chicago. Is on the line of the C. M. & St. P. R. R., the C. & N. W. Ry., and the Ill. Central R. R. Is the greatest railroad center in the state, nine lines radiating in different directions. No electric railway connection with other cities at present but two lines promised, one to Janesville and the other to connect with Fox River cities. Excellent street railway system. Private gas and electric plants. City owns water-works. Two telephone systems operating 4,000 instruments. American and United States Express companies.

Situated between the two most prominent of the cluster of lakes which form the headwaters of the Rock river. Madison, the seat of the state capital and university, ranks in many respects, next to Milwaukee, as the most important city in the state. While ranking sixth among Wisconsin cities as to population, it is first in education, second in the extent of its park system, annual building record and the number of miles of paved streets, and third as to postal receipts.

Madison is known as one of the greatest educational centers in the United States. The state university with over 3,600 students is located in this city. Its high school, for which a new building is being erected at a cost of \$250,000, for size and equipment is unsurpassed in the state. There are also two private academies, a library school, a commercial college, eleven public schools and several large parochial schools. As a supplement

to its educational system, Madison possesses a number of libraries of national importance. The state historical library, housed in a \$600,000 building and containing also a museum and art gallery, is one of the choicest collections in America. The state law library is complete in every respect. Other important libraries are the university library, city Carnegie library, state legislative library and collections of several learned societies. These libraries are annually visited by students and writers from every state in the union.

As a summer resort Madison has opportunities without limit. It has the lowest death rate of any city in the state as shown by the U. S. census report. Nature has been lavish in her gifts to this city and the country surrounding where five lakes with high wooded banks furnish scenery unsurpassed. The city has eight miles of water frontage on three lakes. To improve these natural advantages the Madison Park & Pleasure Drive Association has expended nearly \$200,000 for acquiring parks, playgrounds and public drives, all of which property is held in trust for the city. When the present plans of the association are complete, Madison will possess 150 acres of parks and playgrounds, located in all parts of the city, connected by a network of improved drives, parkways and canals so located by landscape gardeners as to combine in an unusual manner the uses of both land and water. To secure these results the city has expended but \$60,000, the remainder of the cost being made up by public subscription. Gifts to the city for this purpose during the last two years have aggregated over \$118,000. The Yahara river, which five years ago was nearly clogged with vegetation, has been dredged and its banks parked at a cost of \$83,000. Cement and stone bridges have displaced wooden structures. The railroads have aided this improvement and others by expenditures amounting to \$56,351.11. Many tracts of swampy ground have been converted into beautiful parks, bordering the lakes, by means of deep canals and locks made accessible to boats and launches. Twelve miles of improved drives stretch along the lake shores. As a result of these improvements, which have attracted national attention, the city is much sought by those who have a taste for nature.

Madison is also a manufacturing and commercial city, having made considerable strides in that direction during the last decade. In 1905 there were 84 manufacturing establishments, with

a capital of \$5,182,083, employing 1,476 men and with an annual product of \$3,291,143. During the last five years the number of establishments has increased 21.7 per cent; capital increased 49.1 per cent; number of wage-earners 8.1 per cent and value of products 22.4 per cent. There are large plants for the manufacture of machine tools, electrical machinery, agricultural implements, brass goods, harness specialties, shoes, beet sugar, confectionery goods, brick and clothing. Madison, on account of its railroad facilities, is the distributing point for farm implements, traction engines and vehicles for the state, twenty-eight establishments maintaining branch houses here. The city is also the center of the tobacco growing and shipping industry of the state, this product being handled in Madison by numerous warehouses, some of which are very large.

There is much land in the city well adapted to manufacturing purposes. Free sites can be obtained which afford shipping facilities over two railroads. Every inducement is extended for the location of industries, the Forty Thousand Club devoting itself to this purpose. The surrounding country can be drawn upon for a large increase of labor. There are no unoccupied buildings in the city. Madison offers an excellent location for wholesale establishments, especially a wholesale hardware company since the city is visited annually by hundreds of hardware merchants who come to purchase agricultural implements, and vehicle stocks; also a cement block factory. While Madison has a large number of hotels, capable of caring for 1500 people, yet owing to its increasing importance as a political and educational center, and as a summer resort city, it is in need of a large modern hotel. There are also excellent locations for summer hotels on the eminences overlooking the lakes and city. Movements to these ends would meet with the hearty co-operation of the city.

MARSHALL.

Marshall, Dane Co., is an incorporated village of 464 inhabitants; is situated on the C. M. & St. P. Railroad, 61 miles from Milwaukee, 17 miles from Watertown and 30 miles from Madison; freight and passenger accommodations good; U. S. Express.

Coal and wood are used for fuel, the former being shipped in from Milwaukee and Chicago, the latter from the northern and western parts of the state. Such raw materials as vegetables, sand and peat can be had; plenty of help can be secured. The village has a telephone system, 1 bank, 1 drug store, 6 grocery stores, 2 department stores, 4 dry goods stores, 2 restaurants, 2 hardware

stores, 1 public hall, a creamery, flouring mill, and 2 hotels. 2 physicians are located here. It also supports a high school employing 6 teachers, and 3 churches. A weekly newspaper is published.

The land of the surrounding country is suitable for farming purposes, nearly ninety per cent of which is improved.

MAZOMANIE.

Mazomanie, Dane Co., is an incorporated village of 863 inhabitants; located on the C. M. & St. P. Railroad; 189 miles from Chicago, 119 miles from Milwaukee. The passenger and freight accommodations are good; has U. S. Express.

A 125 horse water power can be developed within the village; coal and wood are both shipped in for fuel, the former from Illinois, the latter from the western part of the state. Such raw materials as fruit, vegetables, sugar beets, clay, sand, peat, small timber and stone can be supplied. Three hundred laborers can be secured. The village is already supplied with an electric light plant, telephone system, 1 bank, 3 drug stores, 3 groceries, 2 hardwares, 4 general stores, 1 furniture store, 1 undertaking establishment, 1 lumber yard, a millinery store, 2 hotels, 2 boarding houses, a public school employing 6 teachers, 6 churches, and 1 parochial school. The village owns its own electric light plant. At one time this village supported a wagon factory, a knitting factory, and a brewery. The latter burned down, the former three failed for various reasons. There are 2 physicians located in this place. A weekly newspaper is published.

The portion of land lying south and south-east of the village is very fertile, but near the Wisconsin River is a considerable amount of sandy land. The farmers of this community are very prosperous, and dairying is becoming more and more the leading industry.

MIDDLETON.

Middleton, Dane Co., is an incorporated village of 544 inhabitants; located on the C. M. & St. P. Railroad, 6 miles west of Madison, 88 miles from Milwaukee and 138 miles from Chicago; U. S. Express; freight and passenger facilities are good.

Coal for fuel is shipped from Milwaukee, wood from the western part of the state. Such raw materials as clay, peat, sand and stone can be supplied. An electric light plant would probably do well here. The city has 1 bank, 1 drug store, 1 grocery store, 1

physician, and a public school employing 5 teachers. Has a weekly newspaper.

The land surrounding the village is well adapted for general farming purposes, nearly five per cent. of which is improved.



FARM SCENE, OREGON, WIS.

MORRISONVILLE.

Morrisonville, Dane Co., is an unincorporated village of 200 inhabitants located on the C. M. & St. P. Railroad, 145 miles from Chicago, 96 miles from Milwaukee and 14 miles from Madison; facilities for the receipt and shipment of freight good; has U. S. Express.

Coal and wood are used as fuel, the former being shipped in from Milwaukee and Chicago. Such raw materials as vegetables, clay, sand, peat, some timber, and stone can be supplied. Plenty of help can be secured. The village is in need of a general store. It is already supplied with a telephone system, 1 bank, 1 drug store, 2 groceries, 1 hardware store, 2 dry goods stores, grain elevator,, lumber yard, harness shop, shoe store and shop, 2 tobacco warehouses, 1 hotel, 1 boarding house, and a meat market. There is 1 physician located here. The village has a graded school employing 2 teachers.

The land of the surrounding country is excellent for farming purposes. There is some stony land, some swampy, but none sandy.

MT. HOREB.

Mt. Horeb, Dane Co., is an incorporated village of 1,008 inhabitants; is situated on the C. & N. W. Railroad, 153 miles from Chicago, 105 miles from Milwaukee and 23 miles from Madison; has fairly good freight and passenger facilities; American Express.

Coal and wood are used as fuel, the former being shipped from Milwaukee and Chicago. Such raw materials as fruit, vegetables, sand, stone, some timber and clay can be furnished. This village has a splendid opening for a laundry, tank factory, and a planing mill combined with a sash and door factory. Three hundred and fifty laborers can be secured. The village is already supplied with an electric light plant, a telephone system, 2 banks, 2 drug stores, 5 groceries, 2 hardware stores, 2 dry goods stores, a restaurant, 2 hotels and 2 boarding houses. Another hotel is desired. There are 3 physicians and 1 attorney-at-law located here. The city has a splendid public school system employing seven teachers. Streets are wide, well drained, partially macadamized and have cemented walks. It also has a public park. A weekly newspaper is published.

The surrounding country is devoted to farming, sixty-five per cent. of the land is improved. There is very little stony land, no swampy land and but little sandy soil. Dairying and tobacco raising are the principal occupations of the farmers.

ROCKDALE.

Rockdale, Dane Co., is an unincorporated village of about 225 people; is not located on any railroad.

It has a small undeveloped water power. Coal and wood are the principal fuels. Such raw materials as clay for brick, limestone and sand for the manufacture of glass can be supplied. The village has 2 groceries and 1 hardware store.

The country is excellent for farming purposes.

STOUGHTON.

Stoughton, Dane Co., has a population of 4,244; is located on the C. M. & St. P. Railroad; 81 miles from Milwaukee, 15 miles from Madison, the state capitol, and 153 miles from Chicago. It has thirteen passenger and mixed trains daily, excellent freight accommodations; U. S. Express.

Coal and wood are the principal fuel, the former being shipped from Illinois, the latter from the northern and western parts of the state. Such raw materials as fruit, vegetables, sugar beets, clay, sand and stone can be supplied, while other raw materials must be shipped in. Any amount of help can be procured.

The advantages offered for shipping and receipt of freight make this place a most favorable one for any kind of manufacturing establishment. This city offers a fruitful field for a gas plant. It is already provided with an electric light plant, telephone system, 2 banks, 4 drug stores, 8 groceries, 3 hardware, 2 department, and 6 dry goods stores, 2 laundries, 4 meat markets, 2 bakeries, 6 clothing stores, 5 shoe stores, a news stand, a candy factory, 3 blacksmith shops, 2 wagon factories employing about 700 men, shoe factory, 4 printing offices, a cement factory, several tobacco warehouses, a milling company, 3 hotels, 6 boarding houses and a public school employing nearly 30 teachers. The city also supports 7 physicians and 5 attorneys at law. 4 weekly newspapers are published. The city is situated within three and one-half miles from Lake Kegonsa, which is surrounded by hundreds of fine summer cottages, where thousands of tourists spend their summer vacations.

Nearly all of the country surrounding the city is excellent for general farming.

WAUNAKEE.

Waunakee, Dane Co., is an incorporated village of 465 people, situated on the C. & N. W. Railroad, 140 miles from Chicago, 92 miles from Milwaukee and 10 miles from Madison; freight and passenger accommodations good; American Express. Telegraph and telephone.

Coal and wood are used for fuel, the former being shipped in from Milwaukee and Chicago. Such raw materials as fruit, vegetables, clay, sand and stone can be supplied. A small canning factory and pickling establishment would do well here. Plenty of help can be procured. The village is already supplied with a telephone system, a bank, a drug store, 2 groceries, a hardware store, a department store, 4 dry goods stores, 6 saloons, a lumber yard, 4 general stores, 2 farm machinery establishments, an elevator, 2 barber shops, a creamery, 3 blacksmith shops, 1 jewelry store, 2 meat markets, 2 hotels, 4 boarding houses and a restaurant. There are 2 physicians located here; also a graded school employing 6 teachers.

The land of the surrounding country is excellent for farming purposes, nearly all of which is improved.

DODGE COUNTY.

Dodge county is located in the south-eastern part of the state. The area is 884 square miles. The population in 1905 was 45,773. One-fifth of the population is of foreign birth, consisting almost entirely of Germans. The farm area in 1905 was 507,331 acres, of which 372,087 acres were improved. The present farm area comprises nearly all the land which is capable of being profitably cultivated. The value of these farms, including improvements, in 1905 was \$39,663,006 as compared with \$26,663,441 in 1890, being an increase of about 48% in 15 years. The surface of the county is rolling and slightly hilly, but with no pronounced ridges, the topography being typical of the glaciated regions. The soils in the western part of the county are a light clayey loam. In the eastern half of the county the soils are clayey loams of the medium and heavier varieties, and unexcelled for fertility. A few tracts of prairie loam are found in the northern part. Numerous small and irregular areas of marshy soil composed mainly of muck and peat, occur in different parts of the county. The chief crops and the approximate acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	54,417	9,142
Oats	41,877	77,687
Barley	79,743	93,060
Corn	32,542	45,438
Rye	2,656	1,504
Hay	81,094	73,332
Tobacco	8	2,664

Dodge county is easily the largest barley growing section in the state. Clover seed is also an important crop, nearly 2,500 acres being devoted to its culture. One of the leading sources of farm income is the dairy industry. In 1905 there were 126 cheese factories and 30 creameries, the county ranking second in the state in the number of cheese factories.

The range of prices for tracts of unimproved land is from \$25. to \$50. per acre, and for improved farm lands the prices range from \$50. to \$150. per acre. Juneau is the county seat. The following table shows the population statistics of the local political divisions for 1905.

DODGE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Ashippun	247	672	598	1,270	1,270	...	...	1	272
Beaver Dam	249	670	605	1,275	1,275	...	...	4	253
Beaver Dam, city:									
ward 1	142	337	283	620	618	2	...	...	...
ward 2	162	354	362	716	715	1	...	...	...
ward 3	170	345	396	740	736	4	...	...	...
ward 4	189	330	387	717	717	...	...	...	...
ward 5	109	307	290	597	597	...	...	...	...
ward 6	161	326	375	701	701	...	...	...	...
ward 7	176	373	331	754	754	...	...	...	...
ward 8	200	368	402	770	770	...	...	...	...
Total, city...5,615								42	1,060
Burnett	218	539	466	1,005	1,005	...	...	6	201
Calamus	210	542	498	1,040	1,039	1	...	6	136
Chester	134	329	293	622	622	...	...	4	100
Clyman	224	596	547	1,143	1,143	...	...	5	232
Elba	210	577	509	1,086	1,086	...	...	2	226
Emmet	208	565	486	1,051	1,051	...	...	4	227
Fox Lake	149	389	315	714	714	...	...	...	136
Fox Lake, village....	224	436	472	908	895	13	...	16	104
Herman	239	673	603	1,276	1,276	...	...	2	245
Horton, city:									
ward 1	119	270	246	516	516	...	...	...	...
ward 2	118	249	251	500	500	...	...	...	...
ward 3	127	265	272	537	537	...	...	...	...
Total, city...1,563								16	306
Hubbard	291	768	670	1,438	1,438	...	...	5	279
Hustisford	364	831	815	1,646	1,646	...	...	3	319
Juneau, city:									
ward 1	123	241	248	489	489	...	...	...	...
ward 2	128	220	235	455	455	...	...	...	...
Total, city...944								11	172
Lebanon	232	655	608	1,263	1,263	...	...	5	242
Le Roy	244	657	606	1,263	1,263	...	...	13	225
Lomira	292	817	755	1,572	1,572	...	...	5	320
Lomira, village	123	232	263	495	495	...	...	3	83
Lowell	327	851	739	1,590	1,590	...	...	2	315
Lowell, village	80	135	151	286	286	...	...	5	51
Reeseville, village	102	205	192	397	397	...	...	4	78
Mayville, city:									
ward 1	116	189	183	372	372	...	...	...	...
ward 2	90	215	254	469	469	...	...	...	...
ward 3	218	475	477	952	952	...	...	...	...
Total, city...1,793								12	322
Oak Grove	296	822	673	1,495	1,495	...	...	6	252
Portland	212	568	516	1,084	1,084	...	...	2	203
Ruhicon	221	643	537	1,180	1,180	...	...	1	234
Neosho, village	71	151	156	307	307	...	...	4	52
Shields	190	434	377	811	811	...	...	...	176
Theresa	253	702	648	1,350	1,350	...	...	4	200
Theresa, village	90	167	187	354	354	...	...	2	74
Trenton	253	703	568	1,271	1,271	...	...	4	312
Watertown, city:									
ward 5	224	463	495	958	953	...	...	10	141
ward 6	317	598	666	1,264	1,264	...	...	12	218
Total, city...3,622								...	...
Waupun, city:									
ward 1	128	218	254	472	472	...	...	...	80
ward 2	110	177	212	389	389	...	...	...	42
ward 3	84	115	160	275	275	...	...	...	38
ward 4	80	135	158	293	293	...	...	...	45
prison ward		592	16	608	573	25	10	...	...
Total, city...3,111								33	...
Westford	174	471	409	880	880	...	...	6	133
Standolph, village:									
east ward	170	286	317	603	603	...	...	3	110
Williamstown	193	490	444	934	934	...	...	6	144
Total	9,786	23,748	22,025	45,773	45,717	46	10	269	8,609

†includes total in Dodge and Fond du Lac counties.

‡includes total in Dodge and Jefferson counties.

§West ward in Columbia county.

* Japanese.

BEAVER DAM.

Beaver Dam, Dodge Co., is an incorporated city of 5,615 population located on the C. M. & St. P. Ry., 65 miles from Milwaukee, and 150 miles from Chicago; has 4 passenger trains daily and good freight accommodations; U. S. Express.

The city would support both a shoe and a starch factory and furnish site. Plenty of help could be secured. Coal is the principal fuel, shipped from Milwaukee. Such raw materials as clay, sand and stone can be supplied. The city already has a gas plant, an electric light plant, telephone system, 2 banks, 3 drug stores, 5 groceries, 3 hardwares, 6 general stores, 2 laundries, 3 furniture stores, 3 meat markets, 3 livery stables, 2 hotels, 3 lumber yards, 3 elevators, 1 large malleable iron plant and foundry, 2 woolen mills, 1 cotton mill, 1 steel range plant, 1 agricultural implement factory and a flouring mill. It supports 6 physicians and 5 lawyers. It has an excellent school system, and a large public library. Has 2 weekly and one monthly newspapers. It can be made a summer resort town and is in need of another first-class hotel.

The surrounding country is composed of some of the best farming lands in the state. The soil is a clayey loam free from stone and sand. A large marsh lays in close proximity to the city.

BURNETT.

Burnett, Dodge Co., is an unincorporated village of about 200 inhabitants located on both the C. & N. W. and the C. M. and St. P. railroads about 44 miles from Oshkosh, 59 miles from Milwaukee, 144 miles from Chicago; passenger and freight services good; both American and U. S. Express.

Coal shipped from Milwaukee is the principal fuel. Such raw material as vegetables, clay, peat and sand can be supplied. Not much help is available. The village has 2 groceries, 1 hardware, 2 general stores, 2 elevators, 2 blacksmith shops, 1 butter factory, 1 hotel and a graded school employing 2 teachers. The village has one physician.

The surrounding country is well improved, and well adapted for farming. The soil is very fertile, free from sand and stone, but some marshy land. Dairying and stock raising are the chief occupations of the farmers.

CLYMAN.

Clyman, Dodge Co. Not incorporated. It has about 150 population; 138 miles from Chicago, 56 miles from Milwaukee; freight and passenger facilities are adequate; has American Express.

Such raw materials as vegetables, sand and stone are available;

and plenty of help can be secured. A grist mill would be of considerable advantage to the place.

The place supports 2 grocery stores, 2 hardware stores, 2 general stores, and 2 boarding houses. One physician is located here.

Ninety per cent of the land surrounding the village is improved, and is well adapted for general farming. The soil is very fertile, free from stone, sand and marshes.

DANVILLE.

Danville, Dodge Co., is an unincorporated village of about 120 people; is located on the C. M. & St. P. Ry.; freight and passenger facilities are fairly good; has U. S. Express.

This village has some undeveloped water-power; such raw materials as peas and corn could be supplied, also clay, sand, peat, some timber and stone; the village has a grocery store, 1 hardware store, 1 dry goods store, a mill, creamery and blacksmith shop; it has a graded school employing 2 teachers; a small hotel could probably be maintained in this place.

The surrounding country is well adapted for farming purposes.

FOX LAKE.

Fox Lake, Dodge Co., is an incorporated village of 908 inhabitants situated on the main line of the C. M. & St. P. Ry., between Milwaukee and La Crosse; is 71 miles from Milwaukee, 156 miles from Chicago; has 4 daily passenger trains, good freight accommodations; U. S. Express.

Coal shipped from Milwaukee is the principal fuel. About 100 horse water-power can be developed at this place. Such raw materials as fruit, vegetables, sand and peat can be supplied, and plenty of help secured. The village would support a shoe and a canning factory. It is already supplied with an electric light plant, a telephone system, 1 bank, 2 drug stores, 8 grocery stores, 2 harness shops, 2 wagon shops, printing office, 2 meat markets, 1 creamery, 3 blacksmith shops, a jewelry store, 2 hardwares, 5 general stores, 1 laundry, 3 implement dealers, a gas mantle factory, a flouring mill, a brewery, 5 hotels, 1 boarding house, and a high school employing 8 teachers; it also supports 3 physicians and 2 lawyers. A weekly newspaper is published. It is a beautiful summer resort town located on a lake having seventeen miles of shore line, dotted with many beautiful wooded islands. The village prides itself on its many beautiful residences, shade trees, macadamized streets and its public park.

The land of the surrounding country is a black clayey loam, excellent for farming purposes, and very little of it is marshy. Dairying is the leading industry of the farmers.



SUMMER SCENE AT FOX LAKE.

HORICON.

Horicon, Dodge Co. Population, 1,553. Situated 6 miles from Juneau, 6 miles from Mayville, and 54 miles from Milwaukee. Located at a junction point on the C. M. & St. P. Ry. There are no electric lines. Electric lighting plant. Telephone system. Western Union telegraph. United Express.

Horicon is located on the Rock river, a water power stream. The power developed is practically all utilized. The factory products of the city are agricultural implements and windmills. There are no unoccupied factory buildings. Horicon is the center of a wealthy farming and dairying region and vegetables and sugar beets could be furnished in large quantities to any factory desiring them. Being a thickly settled country, labor could easily be obtained for additional factories. The hotel accommodations of the city are ample. A weekly newspaper is published.

HUTISFORD.

Hutisford, Dodge Co., is a thriving unincorporated village of about 800 inhabitants, situated five miles from railroad. Its nearest station is Woodland on the C. M. & St. P. Ry., 46 miles from Milwaukee, 131 miles from Chicago and 50 miles from Oshkosh; has U. S. Express.

A 1000-horse water power can easily be developed within the village. Coal and wood are used for fuel, coal being shipped from Milwaukee, wood being obtained from the surrounding country. Such raw materials as clay, sand, peat, small timber, fruit, vegetables, corn and carp can be supplied, and plenty of help can be procured. The village being located near a very fine lake, it could be made a summer resort. The village has 1 bank, 2 drug stores, 2 groceries, 2 hardware, and 4 general stores, 2 furniture stores, 1 wagon factory, 1 music and jewelry store, 2 grist and flouring mills, 4 blacksmith shops, 2 barber shops, 4 dressmaking establishments, 1 millinery store, 2 shoe-making shops, 1 pop factory, one canning factory which produced 800,000 cans of corn in 1905, 2 hotels, 2 boarding houses, a graded school employing 5 teachers, and a twenty-acre park. The residences and business blocks of this place are very substantially built, sidewalks are of cement and shade trees are plentiful.

All the surrounding country is suitable for farming purposes, the separate land being very fertile, having a clayey sub-soil, free from sand, stone and swamps. There are 18 cheese factories in the town.

JUNEAU.

Juneau, Dodge Co., is an incorporated village of about 944 people; is located on the C. & N. W. Railroad, 15 miles from Watertown, 32 miles from Fond du Lac, 76 miles from Milwaukee, and 145 miles from Chicago; freight and passenger services are very good. American Express Company.

Such raw materials as fruit, vegetables, clay, peat, timber, sand and stone can be procured; also plenty of help; coal and wood are the principal fuels, the former being shipped in from Milwaukee and Chicago. The city is supplied with a bank, 2 drug stores, 5 grocery stores, 2 hardwares, 5 general stores, and 1 laundry; also 3 physicians, a lawyer, a graded school employing 9 teachers, 4 hotels and 3 boarding houses, a city park, court-house and other county buildings.

Nearly all the land in the surrounding country is improved, having the best of soil, is some rolling and slightly stony; most of the land, however, is free from stone.

KEKOSKEE.

Kekoskee, Dodge Co., an unincorporated village of about 150 people, not located on railroad; about three miles from Mayville the nearest station.

The farming country around Kekoskee is first class. There is some marsh land, no sand, and the soil is free from stone. Dairying is the leading industry of the farmers. The village has 2 groceries, 2 general stores and 1 hotel.

LOMIRA.

Lomira, Dodge Co., is an unincorporated village of about 495 people, located on the Wisconsin Central Railroad, 143 miles from Chicago, 59 miles from Milwaukee; has fairly good passenger and freight services; National Express.

The village has been beautified by a chain of five artificial ponds from one to fifteen acres in extent through which a limpid stream of spring water flows. These ponds are well stocked with fish and their shaded shores are favorite resorts for the angler.

Coal shipped in from Milwaukee is the principal fuel; such raw materials as fruit, vegetables, milk, clay, sand, timber, iron and stone can be secured. The village desires a canning factory. An electric light plant could also be supported here. There are 4 general stores, 1 hardware store, 1 tin shop, 1 shoe store, 1 jeweler, 1 bank, 2 hotels, 2 meat markets, 3 barber shops, 1 photograph gallery, 2 furniture stores, 2 cigar factories, 1 lumber yard, a wood-working factory and sawmill, a weekly paper and printing office, 2 physicians, 3 blacksmith shops, a wagon maker, a cheese factory in the village and 3 more near and tributary thereto, also a creamery with 3 skimming stations, 2 large grain elevators, where wood and coal are also handled, 1 livery barn, 1 harness shop, 2 milliners, 1 clothing store, 6 saloons, 1 live stock firm, a park with a large hall, a dentist, a lamp and blow torch company.

It has a graded school employing 5 teachers. Its streets are well macadamized and supplied with plenty of shade trees. It

also has a Lutheran church, Catholic church, Evangelical church and a Tabernacle.

The surrounding country is well adapted for farming purposes, little stony, no sand or swamps.

MAYVILLE.

Mayville, Dodge Co., is an incorporated city of 1,792 inhabitants located on the C. M. & St. P. Ry., 56 miles from Milwaukee, 21 miles from Fond du Lac and 140 miles from Chicago; has good passenger and freight service. United States Express.

A considerable supply of water power remains undeveloped in the immediate vicinity of the city. Coal is the principal fuel although wood is still used to some extent. Any kind of industry could be supported here that uses fruit, vegetables, clay, sand, small timber, limestone, peat or iron ore, peat being supplied from a large marsh near by, iron ore from a mine south of the city. Help is scarce. An establishment known as the American Bottle Straw Cover Mfg. Co., was once established here, upon ground furnished by the city, but failed either because of mismanagement or lack of demand for its products.

The city supports Lutheran, Catholic, Methodist and Presbyterian churches, 4 physicians, 4 lawyers, a high school employing 14 teachers, 1 bank, 3 drug stores, 5 grocery stores, 2 hardware stores, 5 general stores, 2 millinery stores, 3 jewelry stores, 3 meat markets, 2 hotels, 2 boarding houses, an electric light plant, telephone system, two halls, a blast furnace foundry, malt house and 2 breweries. The N. W. I. Co. is making a half million dollar addition to their plant. Has one weekly and one semi-weekly newspaper.

All the country surrounding the city suitable for farming purposes is improved. The soil is a rich black loam, free from stone and sand. The surface of the country is somewhat rolling south and east of the city, but level north.

MINNESOTA JUNCTION.

Minnesota Jet., Dodge Co. An unincorporated village of about 250 inhabitants, located at the junction of the C. & N. W. and the C. M. & St. P. railroads, 57 miles from Milwaukee and 142 miles from Chicago; has fair freight and passenger accommodations; U. S. and American Express.

The village has no water power. Coal and wood are used for fuel, the former being procured from Milwaukee and Illinois points. No raw materials can be supplied. The village has one grocery store, 1 hardware, 1 general store, 2 hotels and 2 board-

ing houses. The surrounding country is all excellent farming land, free from stone, sand and gravel, and but very little marshy.

NEOSHO.

Neosho, Dodge Co., is an unincorporated village of about 350 people; it is not located on any railroad; Woodland, about four miles distance on the C. M. & St. P. Railroad, is the nearest station.

Coal and wood are used as fuel, the former being shipped in from Chicago; vegetables can be grown for canning purposes; sugar beets are also successfully grown in the surrounding country; clay, sand, some timber and limestone can be supplied. The village has no electric light plant; it has 1 bank, 1 drug store, 3 grocery stores, 2 hardware stores, 2 general stores, one flouring mill, 1 brewery, 2 meat markets, 3 blacksmith shops, 2 hotels, 2 boarding houses and a graded school employing 4 teachers. It also supports 2 physicians and a weekly newspaper.

The surrounding country is practically all improved. The soil is a rich loam, free from stone, sand, and but very few swampy places.

REESEVILLE.

Reeseville, Dodge Co., an incorporated village of 397 inhabitants; is located on the main line of the C. M. & St. P. Ry., between Milwaukee and La Crosse; is 141 miles from Chicago, 56 miles from Milwaukee and 142 miles from La Crosse; U. S. Express; excellent freight and passenger services.

A good location for a factory canning peas, corn and tomatoes. The village supports 1 bank, 1 drug store, 2 hardware stores, 4 general stores and 1 first class hotel. It has a graded school employing 4 teachers. A newspaper is published.

The soil of the surrounding country is very fertile, land level and all improved.

THERESA.

Theresa, Dodge Co., is an incorporated village of 354 inhabitants situated on the Wisconsin Central Ry., 141 miles from Chicago and 49 miles from Milwaukee, via Rugby junction and the C. M. & St. P. Ry.; has passenger and accommodation trains daily; freight facilities good; National Express.

The village has about 100-horse water power, which can easily be developed. Such raw materials as fruit, vegetables, sugar beets, clay, sand, stone, and peat can be supplied in large quantities. Wood, procured from the surrounding country and coal

from Milwaukee, are used as fuel. Plenty of help is also to be had. The village desires to secure both a pickling and canning factory. It has no electric light plant but is supplied with a telephone system, 1 bank, 1 drug store, 2 groceries, 2 hardware stores, 2 general stores, 1 flouring mill, 2 saw, planing and woodworking mills, 2 breweries, 1 furniture store, 1 meat market, 2 churches, 2 parochial schools, a public school employing five teachers, 1 bakery, 3 blacksmith shops, 1 hotel and 1 boarding house. It also supports 3 physicians. Another first class hotel is needed.

Nearly all of the surrounding country suitable for farming purposes is improved. The soil is fertile, not very stony, is some sandy and but little marshy.

WATERTOWN.

Watertown, located on the boundary line between Jefferson and Dodge counties. Population, 8,625. 24 miles from Milwaukee, 38 miles from Madison and 120 miles from Chicago. C. & N. W. and C. M. & St. P. Rys. An electric railway connecting with Milwaukee is to be constructed in the near future. The city has a good waterworks system. Telephone system. Electric light and gas plants. Western Union telegraph. U. S. and American express.

Watertown is located on the Rock river, which is a water power stream and which develops at this place an extensive power not all of which is being utilized. Owing to its excellent railroad facilities, Watertown has gained considerable prominence as a manufacturing city. It has extensive malt houses, paper-box factories, iron works, shoe factories, furniture factories, and several plants for the manufacture of candies and confectionery goods. Watertown is anxious to secure the location of additional factories. Sand, timber and stone are the leading raw materials. There are no unoccupied factories in the city. The surrounding country can be drawn upon for a considerable increase in the factory labor force. Three banks furnish ample banking facilities. There are 11 physicians and nine lawyers. Watertown has 6 hotels, but there is a demand for a modern first class hotel. Four weekly and one daily papers are published.

WAUPUN.

Waupun, Dodge Co., has a population of 3,111; two wards of this city are located in Fond du Lac. The city is situated on the C. M. & St. P. Railroad, 69 miles from Milwaukee, 154 miles from Chicago and 34 miles from Oshkosh; passenger and freight facilities good; has U. S. Express.

Coal shipped from Chicago is the principal article of fuel; vegetables could be supplied for a canning factory; there is an abundance of limestone in the vicinity; the Northwestern

Railway runs within two and one-half miles of the city; It is supplied with an electric light plant; telephone system, two banks, three drug stores, six grocery stores, three hardware stores, one department store, four dry goods stores, one laundry, one shoe-store, two jewelry stores, two newspaper offices, three livery stables, two candy factories, one machine shop and wind-mill factory, two lumber yards, one marble shop, two blacksmith shops, one opera house, one public hall, two furniture stores, one flouring mill, three millinery stores, two agricultural implement establishments, two elevators, one creamery, one tank, vat and wood working establishment, one plow factory, two cigar factories, three hotels and one boarding house. There are also six physicians and five lawyers established here. The city supports an excellent high school employing 17 teachers. The city would probably be a good field for the establishment of a gas plant and a vegetable canning factory. The streets are well kept, the business portion being paved. The city has many fine residences, and abundance of shade trees mostly maple. It is also supplied with a public library.

The surrounding country is well adapted for general farming nearly all the land being improved. The soil is very fertile, a clayey loam and not much swampy land nearer than three and one-half miles from the city.

WOODLAND.

Woodland, Dodge Co., is located on the C. M. & St. P. Railroad, 46 miles from Milwaukee, 131 miles from Chicago, and 30 miles from Fond du Lac; is an unincorporated village and has a population of about 150 people; passenger and freight services are good.

. Vegetables can be grown abundantly; a cheese box factory would probably do well here. The city has neither electric light plant, bank, or drug store. This city is supplied with one grocery store, one hardware store, one general store, two cheese factories, one hotel and two boarding houses. Has no physician.

The surrounding country is most excellent for farming. The soil is very fertile.

DOOR COUNTY.

Door county is located in the north-eastern part of the state, between Lake Michigan and Green Bay. The area of Door county is 454 square miles. Its population in 1905 was

19,631, a gain of 2,048 since 1900. Nearly one-fourth of the population is foreign born, the largest foreign element being Germans, the other important nationalities being Norwegians, Swedes, Belgians and Canadians. The northern part of the county is rough and rugged, while the southern part is more level and rolling. The soil of nearly the entire county is a heavy loamy clay of a rich quality. There is no soil in the northern part of the state better adapted to general farming and to dairying, and stock raising in particular, than this. This soil is quite generally free from stones. There are several marshy tracts along the shore of Green Bay and also on the Lake Michigan side. In the southern part of the county and along the Michigan side there are a few tracts of red clay soil of a very pure texture, such as cover practically all of Brown and Ashland counties. Door county has about 232,000 acres in farms, of which amount nearly 126,000 acres are improved. In 1890 the farm acreage was 186,332, of which 80,185 acres were improved. The value of the farms and improvements in 1905 was \$7,782,527, as compared with \$2,785,175 in 1890. The chief crops and their acreage in 1890 and 1905 were as follows.

	Acreage in 1890.	Acreage in 1905.
Hay	25,617	33,287
Wheat	12,320	8,626
Oats	10,804	14,767
Rye	2,533	5,998
Barley	1,225	3,706

In 1905 there were 6 creameries and 22 cheese factories in the county. Unimproved land which can be made tillable is worth about \$9. per acre. The price of improved farm land averages about \$45. per acre. The principal city and also the county seat is Sturgeon Bay. The population of the cities, villages and towns of the county for 1905 was as follows:

DOOR COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Bailey's Harbor	151	387	321	708	708	.....	.....	5	118
Brussels	226	692	691	1,383	1,383	.....	.....	2	232
Clay Banks	117	321	266	587	587	.....	.....	2	112
Egg Harbor	178	531	446	977	977	.....	.....	7	194
Forestville	267	782	625	1,407	1,407	.....	.....	7	234
Gardner	162	439	400	839	839	.....	.....	3	177
Gibraltar	242	617	589	1,206	1,206	.....	.....	11	186
Jacksonport	189	519	436	955	955	.....	.....	4	172
Liberty Grove	310	892	736	1,628	1,628	.....	.....	1	210
Nasewanpee	259	700	655	1,355	1,355	.....	.....	7	241
Sevastopol	308	896	813	1,709	1,709	.....	.....	10	291
Sturgeon Bay	122	331	293	624	624	.....	.....	8	110
Sturgeon Bay, city:									
ward 1.....	323	808	789	1,597	1,597	.....	.....	26	316
ward 2.....	178	409	423	832	832	.....	.....	8	172
ward 3.....	234	520	532	1,052	1,052	.....	.....	10	174
ward 4.....	251	604	555	1,159	1,156	3	.....	9	263
Total, city...4,640									
Union	101	359	293	652	652	.....	.....	1	119
Washington	202	499	412	911	911	.....	.....	5	169
Total	3,800	10,356	9,275	19,631	19,628	3	.....	131	3,639

BAILEY'S HARBOR.

Bailey's Harbor, Door Co. Population, 275. A village on the shore of Lake Michigan, 25 miles northeast of Sturgeon Bay, the nearest railroad station and banking point. Shipping facilities on the lake good in summer. Stage daily to Sturgeon Bay, Jacksonport, and Sister Bay.

The village has a telephone system, 1 drug store, 2 grocery stores, 2 hardware stores, 2 general merchandise stores, graded school employing 2 teachers, one hotel, 2 boarding houses, 1 physician, Catholic and German Lutheran churches, blacksmith shop, flour and saw mill, cigar factory and shingle mill.

Steam power would have to be used for manufacturing purposes. Wood is used for fuel obtained from the farmers near by. Plenty of help can be secured in the village and surrounding country to work the entire year. Fruit, vegetables and peas can be supplied for canning. There is clay, sand and timber in abundance.

The surrounding country is good for farming and about all of the land suitable for crop raising is improved. The land is mostly level and stony. Some marshes northeast of village. Peas are the principal crop raised making this a good location for a pea canning factory. The village is a summer resort and better hotel facilities are needed.

DETROIT HARBOR.

Detroit Harbor, Door Co. Population, 450. A village on the shore of Lake Michigan, in Washington township, 50 miles northeast of Sturgeon Bay, the nearest banking point and railway station.

The harbor is the southern indentation of Washington island and the village is fast becoming a favorite summer resort. Has a telephone system, 3 grocery stores, 2 hardware stores, 2 dry goods stores, a laundry, 3 hotels, 4 boarding houses, graded school employing 2 teachers, Baptist and Methodist churches, one physician, saw and grist mills, blacksmith shop etc. Has neither gas nor electric lights nor newspaper. A first class hotel is needed.

There are 500 acres of land open for summer cottages on the shores of the harbor. Steam power would have to be used for manufacturing. Plenty of help could be secured in the vicinity. Such raw materials as fruit, vegetables and fish could be furnished for canning. The village can be supplied with clay, sand, hardwood timber and stone.

The adjacent country is good for farming and only about $\frac{1}{4}$ of the land suitable for crop raising is improved. Detroit Harbor is a very beautiful sheet of water and with the islands affords some very picturesque natural scenery. The residents are sparing no expense to make this the most popular resort of this section

EGG HARBOR.

Egg Harbor, Door Co. Population, 100. A village and summer resort on Green Bay; is 18 miles northeast of Sturgeon Bay, the county seat and nearest railway and banking point, and 65 miles from the city of Green Bay. Has telephone connections and stage daily to Sturgeon Bay.

Is supplied with a drug store, 2 general merchandise stores, 2 hotels, public school, one church, blacksmith shop, saw mill and a lath mill.

Wood is used for fuel obtained from the surrounding country. A canning factory could be supplied with fruit, vegetables and fish. There is plenty of clay, sand, timber and stone in the vicinity. Some help can be secured. Good location for canning factory or grist mill.

The surrounding country is good for farming and a large per cent of the land suitable for crop raising is improved. The soil is a sandy loam, not many swamps, some portions are free from stone but a great deal of the land is stony.

EPHRAIM.

Ephraim, Door Co. Population, 200. A village on the shore of Green Bay in Gibraltar township, 30 miles northeast of Sturgeon Bay, the nearest railroad and banking point, 149 miles from Milwaukee. Shipping facilities good on the bay in season. Has telephone system.

This village is supplied with three general merchandise stores, Lutheran and Moravian churches, one physician, a school employing one teacher. The village is a summer resort and a first class summer hotel would do a good business. Stages daily to Sturgeon Bay and intermediate points. Fishing is quite an important industry. There is one steam boat dock located here. No parks, but plenty of cedar, spruce, maple and black oak shade trees.

There is some good farming land near the village and about 50 per cent is unimproved. Peas is the principal crop raised making this a good location for a pea canning factory. The village can be supplied with clay, sand, timber and stone.

JACKSONPORT.

Jacksonport, Door Co. Population, 200. A village on Lake Michigan in Jacksonport township, 16 miles northeast of Sturgeon Bay, the nearest railroad and banking point. Has good shipping facilities by water on Lake Michigan.

Has telephone system, 2 general stores, 2 hotels, good schools and churches, blacksmith shops and large fishing industries. Has no physician.

Steam power would have to be used for manufacturing. Wood is used for fuel obtained from the adjacent country. Plenty of help can be secured in the vicinity to work in factories. A canning factory could be supplied with fruit, vegetables and fish. Peas are the principal product of the farms. The village can be supplied with sand, timber and stone. This is a good location for another hotel.

Jacksonport is surrounded by a good farming country and about $\frac{3}{4}$ of the land suitable for crop raising is improved. The soil is a sandy loam with clay subsoil, and a large per cent is level and free from stone. The village is destined to become a popular summer resort. There is some fine natural scenery and the streams and lakes are stocked with all kinds of fish.

STEVENSONS PIER.

Stevensons Pier, Door Co. Population, 150. An unincorporated village located on Green Bay, in Gardener township, 10 miles west of Sturgeon Bay, the county seat, banking point and nearest railway station. Has telephone connections.

The village is supplied with a grocery store and hotel, furniture store, blacksmith and wagon shop, lumber and planing mill. Steam power is used. Wood is used for fuel obtained from the surrounding country. Fruit, vegetables and fish can be supplied for canning. Plenty of timber and stone in the vicinity. Some help can be secured here. A grist mill and a creamery are needed.

About $\frac{1}{3}$ of the land in the township is used for agricultural purposes.

STURGEON BAY.

Sturgeon Bay, Door Co. Population, 4,640. The judicial seat of Door county, is an incorporated city, located on the Ahnapee & Western Ry., 45 miles northeast of Green Bay and on an inlet of the same name. 165 miles from Milwaukee and 250 miles from Chicago. Express United States; telephone and telegraph. Has the advantage of shipping either by rail or water. A canal $1\frac{1}{2}$ miles in length connects Green Bay with Lake Michigan at this point, thus shortening the passage from the south into Green Bay by 100 miles.

The city is lighted by electricity, has 4 banks, 3 drug stores, 14 grocery stores, 5 hardware stores, 9 churches, excellent educational advantages, 3 good hotels, a number of boarding houses, 8 physicians, 4 lawyers, 2 weekly newspapers, 2 shoe stores, 4 jewelry stores, 3 restaurants, 4 dentists, 5 butcher shops, 5 blacksmith shops, 3 tailor shops, 3 photographers and 3 millinery stores. There are extensive stone quarries located near by. The village is also supplied with dry docks and ship yards, brewery, canning factories, flour, planing and saw mills, furniture factory, foundry and machine shops, etc. The Goodrich line of steamers touch here tri-weekly and the Hart line to Green Bay and all ports on Green Bay makes this port daily.

Wood and coal are used for fuel, the former being obtained from the adjacent country and the latter is shipped from the lower lake ports. Help can be secured in the city and country to work the year round. Fruit, vegetables and fish can be supplied for canning. There are two pea canning factories located here at present. Sand, stone, timber and red and blue clay are the natural products. The timber comprises hemlock, pine, spruce, maple, basswood, birch, beach and cedar.

The country surrounding the city is suitable for agricultural purposes and is about one half improved. About 60

per cent of the land is level and free from stone, 20 per cent swampy and sandy. The city is a summer resort.

DOUGLAS COUNTY.

Douglas county is located in the north-west corner of the state. The area of this county is 1,319 square miles, with a population of 43,499, a gain of 7,164 over 1900. 84% of the population of the county is in the city of Superior. There are over 16,000 people of foreign birth in the county, the nationalities represented arranged according to their number are as follows: Swedes, Norwegians, Canadians, Finns, Germans and Irish. There are also a large number of Russian and Polish settlers. While one of the largest counties in the state, only 48,596 acres have been occupied for farming and of this amount less than 8,000 acres is improved land, representing a farm acreage of less than 10% of the area of the county. The value of the farm land together with the buildings and other improvements is \$576,216. With the exception of that part bordering on Lake Superior, the surface of the county is irregular and broken. The soil of the northern half of the county is a fine grained and heavy red clay. This soil, like the red clay regions of Ashland, Bayfield and Brown counties, owes its origin to a sediment once deposited there by the Great Lakes. The central and western part of the county is a clayey loam. The surface is more or less rolling, but not to an extent as to interfere with tillage. There are sections where the soil is stony, but where cleared, good grain, grasses and corn are produced, but it is too coarse to develop into the strongest grass and wheat land. There are a few tracts of sandy loam in this region. The soil in the southern and eastern part is of a sandy nature, coarse and open in texture, which to produce the best results requires some irrigation. These lands which are low in fertility are best adapted to sheep herding. There were practically no attempts at farming in this county prior to 1890. In 1905 the principal crops were hay, oats and corn. The vast tracts of unimproved land which can be made tillable can be purchased at prices ranging from \$5 to \$15 per acre. The price of improved land varies from \$25 to \$50 per acre. Superior is

the county seat and the second largest city in the state. The following table shows the population of the cities, villages and towns in the county in 1905.

DOUGLAS COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Brule	293	999	710	1,709	1,708	1	....	4	507
Gordon	210	759	313	1,072	1,007	....	65	12	345
Nebagamon	581	1,671	1,129	2,800	2,785	*1	14	5	673
Superior	294	803	564	1,367	1,366	1	....	2	247
Superior, city:									
ward 1.....	558	1,615	1,294	2,909	2,878	1	30	13	513
ward 2.....	337	1,153	960	2,113	2,079	13	21	3	507
ward 3.....	269	678	575	1,253	1,188	67	....	....	342
ward 4.....	1,202	6,297	2,970	9,267	9,227	140	....	10	4,120
ward 5.....	1,261	3,264	3,067	6,331	6,301	129	1	13	1,482
ward 6.....	655	1,922	1,611	3,513	3,480	32	1	10	1,224
ward 7.....	989	2,283	2,438	4,721	4,687	33	1	11	1,047
ward 8.....	237	954	766	1,720	1,720	....	....	5	453
ward 9.....	604	1,612	1,554	3,166	3,166	....	....	3	627
ward 10.....	263	982	576	1,558	1,543	....	10	....	533
Total, city.....	36,551	....	....	....	....	....	....	....	....
Total	7,806	24,972	18,527	43,499	43,133	218	143	91	12,630

*1 Chinaman.

†10 Chinamen.

‡1 Chinaman.

BRULE.

Brule, Douglas Co. Not incorporated. Population, 200. On the Northern Pacific Ry., 26 miles southeast of Superior, the county seat and 8 miles from Iron River, Bayfield county, the nearest banking point; 36 miles from Ashland and 198 miles from St. Paul. Express, Pacific. Telegraph and telephone. Shipping facilities and passenger service good.

Has 1 general store and 1 confectionery store, schools employing 2 teachers, 1 hotel with a capacity for 40 guests. One physician is located here.

Wood is used for fuel and is obtained in large quantities from the cut-over lands in the adjacent country. Quite a number of men, women and young persons could be secured in the village and surrounding country to work in factories. Such raw materials as vegetables, fish, and berries could be furnished for canning. The natural products of the country are clay and sand in large quantities, and a small amount of timber. A canning factory would be best suited to the village; a hotel is also needed.

The country surrounding the villages is good for farming purposes and only about 30% of the land suitable for crop

raising is improved. Nearly $\frac{1}{3}$ of the land is rough and about one fourth is level and free from stone. The remainder is about equally divided between swamps and sand.

HAWTHORN.

Hawthorne, Douglas Co. Population, 800. An unincorporated village on the C. St. P. M. & O. Ry., 17 miles southeast of Superior, the county seat and banking point; 139 miles from Eau Claire and 159 miles from St. Paul. American Express. Telegraph and telephone. Good shipping facilities.

Has 2 general merchandise stores, 2 hotels, 2 boarding houses, and a school employing 2 teachers. No manufacturing industries are located here.

Wood is used for fuel. The vicinity could furnish a limited number of men to work in factories. Timber is the only natural product that could be supplied to the town. The village is in need of a woodenware factory.

About one-half of the adjacent country is suitable for farming and only a small per cent is improved. The land produces abundant crops of grass, small grain and vegetables, and is well adapted to dairying.

LAKE NEBAGAMON.

Lake Nebagamon, Douglas Co. Incorporated. Population 1,500. On the Duluth, South Shore and Atlantic, and H. N. & S. Ry's., 29 miles from southeast of Superior, the county seat; 141 miles from Eau Claire and 158 miles from St. Paul. Express, Western. Good facilities for handling and shipping freight and 4 passenger trains daily.

Has electric lights, a bank, drug store, 3 groceries, 1 hardware, 2 dry goods and 3 clothing stores, 1 laundry, jewelry shop, tailor shop, 4 hotels, Catholic, Methodist and Presbyterian churches, good schools employing 6 teachers, a weekly newspaper, 2 lawyers and 1 physician, blacksmith shop and livery stable.

Situated on a beautiful lake the village is an ideal summer resort. The streets are well kept and shaded, a beautiful public park, nice public buildings and business blocks add greatly to the attractions. The village is in need of a first class hotel and a small saw mill.

Wood is obtained from the adjacent country and coal from Superior. Help can be secured in the village and surrounding country. Vegetables could be supplied in sufficient quantities for canning. The land adjacent to the village is suitable for farming and small sections are improved. The soil is about 10%

level and stony, 10% swamps and 25% sandy, the remainder being level and free from stone.

POPLAR.

Poplar, Douglas Co. Not incorporated. Population, 200. On the Poplar river and Northern Pacific Ry., in Brule township, 16 miles southeast of Superior, the judicial seat and nearest banking point; 51 miles from Ashland, 196 miles from Eau Claire and 198 miles to St. Paul. Express, Pacific. Telephone and telegraph. Shipping facilities good.

Has 2 general stores, good schools employing 3 teachers, 3 churches and a creamery.

Wood is used for fuel supplied by the adjoining country. Coal can be obtained at Superior. A limited amount of help could be secured to work in factories. Fruit and vegetables could be supplied for canning. Red clay is one of the natural products. The village needs a small hotel or boarding house, and would be a good location for a blacksmith.

The country surrounding the village is good for farming purposes and only about 25% of the lands suitable for crop raising is improved. The soil is red clay and the land is nearly all level and free from stone. Dairying is the chief industry and a new creamery has just been completed.

SOLON SPRINGS.

Solon Springs, Douglas Co. Not incorporated. Population, 300. On the C., St. P. M. & O. Ry., and on the St. Croix river, 30 miles southeast of Superior, the county seat, and 17 miles from Nebagamon, the nearest banking point; 112 miles from Eau Claire, and 139 miles from St. Paul. Express American. Telegraph and telephone connections. Shipping facilities and passenger service good.

Has 2 grocery stores, 2 dry goods stores, a school employing 1 teacher, Catholic church, 3 hotels, one physician and one lawyer.

An undeveloped water power estimated at 500 H. P. could be utilized. Wood is used for fuel obtained from the surrounding country at reasonable prices. A limited amount of help could be secured in the vicinity to work in factories. Fruit and vegetables could be supplied for canning. Pottery and brick clay, small pine and hardwood timber are the natural products. The village is in need of a first class hotel and is asking for a furniture factory.

Solon Springs is located on the banks of St. Croix lake from which it is separated by a grove of natural pine. Has a public park, and the shores of the lake are dotted with summer cottages. The country surrounding the village is suitable for farming and only a very small portion is improved.



THE RESULT OF TEN YEARS LABOR AFTER BEGINNING IN SOLID WOODS.

The soil is a light sandy loam, about 85 per cent of the land being level and free from stone. All kinds of grasses, small grain and vegetables are grown in abundance.

SUPERIOR.

Superior, Douglas Co. Population, 36,551. Located on Superior, St. Louis and Allouey bays at the mouth of the St. Louis River, 179 miles from Minneapolis and directly across the river from Duluth. C. M. & St. P. Ry.: C. St. P. M. & O. Ry.: D. S. S. & A. Ry.: Gt. N. Ry. and W. C. Ry. Two other railroads are making surveys preparatory to entering the city. Superior possesses one of the finest natural harbors on the great lakes, and steamship lines, both freight and passenger, connect it with all the large lake ports. Street railway system and electric line to Duluth. Waterworks, gas and electric plants. Telephone system. Western Union, North American and Postal telegraph. Adams, American, Great Northern, Northern Pacific, Southern, United States and Western express companies.

The city of Superior occupies a commanding site at the head of the lakes and is laid out on a very liberal plan, in anticipation of a very rapid growth in the future. Owing to its excellent harbor Superior soon became the western terminus of the lake trade resulting in extensive railroad facilities and a vast commerce. The harbor statistics of this city for

1905 show 1,999 arrivals with a net tonnage of 4,573,060 tons, and 1,992 clearances with a net tonnage of 4,535,270 tons.

Superior possesses some of the largest coal and ore docks in the world, being situated near the great iron mines of Minnesota, Wisconsin and Michigan and is one of the largest coal distributing ports on the great lakes. Many large grain elevators are located here. During 1905 there was handled at this city 5,008,446 tons of ore, 23,000,000 bushels of grain and 266,760 tons of flour.

There is a large amount of land in this city with exceptional shipping facilities both by rail and water. Free sites can be secured by substantial industrial concerns. Labor can be obtained from the surrounding country. Clay, peat, sand, stone, ore and timber can be obtained in abundance and are found within a short distance from the city. The city, through its commercial and professional organizations offers every reasonable inducement for the location of new industries. Any industry using wood or iron as a raw material is suitable for the place.

In 1905 there were in Superior 72 manufacturing establishments with a capitalization of \$5,768,352, employing 1,343 men and having a total output of \$6,356,981. The chief manufacturing interests include saw and planing mills, iron works, ship-building, foundry and machine shop products, extensive flour mills and furniture factories. Fishing is also an important industry.

The city has an excellent public school system with an enrollment of 6,700 pupils, is the location of a state normal school, possesses a large public library, two theaters, first class hotels, five banks, two daily papers and six weeklies and over forty churches of all denominations. Nearly all the secret and benevolent societies have a full representation. The Superior Commercial Club and the Board of Trade, comprising the business and professional men, are active in advertising the many natural advantages of the city.

DUNN COUNTY.

Dunn county is located in the west central part of the state. The area of this county is 844 square miles. The population in 1905 was 26,074, a gain of 1,031 over 1900. About one-fifth

of the population is of foreign birth, nearly all of which are Norwegians or Germans. The farm area in 1905 was 438,328 acres, of which amount 218,434 acres are improved land, or no more than 40% of the area of the county. The value of the farms in 1905, including improvements, was \$11,446,961, as compared with only \$4,647,470 in 1900. The soil of the eastern half and central parts of the county is rather diversified in nature, though in general light and porous. In the central part there are several island-like bluffs which support a vigorous vegetation. Nearly all the bluffs and ridges in this region are quite productive. The trees, which are oak, poplar, red cedar and spruce, are small and scattering except along the streams. There are many old lake bottoms or water courses, and some irregular areas of clay soil which support a heavier growth and give productive land. In the northern part the timber has been heavier with an increased number of pine. Patches of prairie are found in nearly every township. The slopes of the hills and lower barrens are frequently covered with blueberries, blackberries and raspberries. Bordering nearly every stream in the region are more or less extensive bottom lands producing well-known marsh vegetation and are generally used for hay and meadow lands. Ledge marshes are in the minority. In the southeastern part of the county there is some prairie loam. In the western part the soil is a sandy loam, being a continuation of the hard timber belt of eastern St. Croix county. The soil where cleared of the oaks, maples and elms which thickly covered it, has proved to be among the best soils in the state and well adapted to general farming, dairying and stock raising. Along the Red Cedar river the soil is generally sandy. The chief crops and their acreage in 1890 and 1905 are as follows:

	Acreage in 1890.	Acreage in 1905.
Potatoes	2,733	4,416
Hay	43,461	49,587
Corn	23,995	26,203
Oats	33,824	57,992
Barley	470	4,674
Rye	3,808	4,805
Wheat	8,951	3,862

There are 5 cheese factories and 16 creameries in the county. The unimproved hilly soil ranges in price from \$10 to \$20 per acre, and where improved, the price ranges from \$50 to \$90 per acre, with some sales at as high as \$100 per acre. The principal city is Menomonie, which is also the county seat. The following table shows the population of the towns, cities and villages for 1905:

DUNN COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Colfax	133	419	328	747	747	.....	.....	3	142
Colfax, village	134	315	325	640	640	.....	.....	6	114
Dunn	252	682	579	1,261	1,261	.....	.....	13	234
Eau Galle	286	736	687	1,423	1,423	.....	.....	23	237
Elk Mound	184	508	426	934	934	.....	.....	8	168
Grant	131	375	329	704	704	.....	.....	3	151
Hay River	107	364	290	654	654	.....	.....	4	104
Lucas	169	425	390	815	815	.....	.....	4	102
Menomonie	364	1,007	874	1,881	1,880	1	.....	17	328
Menomonie, city:									
ward 1.....	209	534	531	1,065	1,065	.....	.....	3	170
ward 2.....	237	548	595	1,143	1,143	.....	.....	12	237
ward 3.....	264	528	711	1,239	1,238	*1	.....	17	165
ward 4.....	459	1,003	1,023	2,026	2,026	.....	.....	17	340
Total, city...5,473									
New Haven	153	357	343	700	700	.....	.....	12	127
Otter Creek	86	201	197	398	398	.....	.....	3	89
Peru	73	204	166	370	370	.....	.....	1	71
Red Cedar	216	708	652	1,360	1,359	1	.....	5	213
Rock Creek	129	363	308	671	671	.....	.....	4	111
Sand Creek	143	395	343	738	738	.....	.....	4	128
Sheridan	110	327	304	631	631	.....	.....	5	110
Sherman	155	422	406	828	828	.....	.....	9	123
Spring Brook	248	698	583	1,281	1,281	.....	.....	14	254
Stanton	266	628	615	1,243	1,243	.....	.....	20	186
Talinter	109	301	244	545	545	.....	.....	4	121
Tiffany	349	541	551	1,092	1,092	.....	.....	16	192
Weston	215	557	510	1,067	1,067	.....	.....	10	206
Wilson	133	370	248	618	618	.....	.....	2	151
Total	5,313	13,516	12,558	26,074	26,071	3	.....	239	4,558

*Japanese.

BOYCEVILLE.

Boyceville, Dunn Co. A small village on the Wisconsin Central railroad, 15 miles northwest of Menomonie, the judicial seat, and 5 miles from Downing, the nearest bank location. Express, U. S. Telegraph and telephone. Shipping facilities good.

Has no water power. Has three general stores, one hotel, a graded school employing two teachers, Lutheran and Methodist

Episcopal churches, and a physician. Can be supplied with plenty of clay, sand, stone and timber.

The village is surrounded by a good farming country and about one-half of the land suitable for crop raising is improved.

The soil is a clayey and sandy loam and about 50 per cent is level and free from stone.

CEDAR FALLS.

Cedar Falls, Dunn Co. Population, 200. An unincorporated village on Red Cedar river, 5 miles northeast of Menomonie, the county seat, banking point and nearest railway station, 25 miles from Eau Claire, 75 miles from St. Paul and 100 miles from La Crosse.

Has a water power of some importance. Two telephone lines pass through the village. There is one general store, a feed mill, one hotel, a graded school employing 3 teachers, a boarding house and a blacksmith shop. This would be a good location for a small factory that could utilize the water power. There is a dam already built. The natural products are clay, sand, timber and stone. Help could be secured in the vicinity.

The surrounding country is a first-class farming section. On the east side of the river is a fine prairie country with a rich black soil and very nearly all improved. The west side of the river at one time was a heavily timbered country and at present about 50 per cent of the land is improved. The land is rolling and the soil is a deep rich clay.

COLFAX.

Colfax, Dunn Co. Population, 640. 18 miles from Menomonie, the county seat and 22 miles from Eau Claire. Wisconsin Central Railway. There are no electric lines. Electric lighting plant. There is a good water supply for domestic and manufacturing purposes. There is no gas plant. Telephone connection. Western Union telegraph. National Express.

Colfax is located on the Red Cedar river, a water power stream, the power being practically all utilized. This village is dependent almost entirely upon the trade from the surrounding country which is a well settled agricultural community. Potatoes are the leading farm product. There are located here one bank, an elevator, a starch factory and a feed mill. There are two churches and a weekly newspaper. A canning factory or a woodworking concern would find this city an excellent location. The hotel accommodations are adequate.

DOWNING.

Downing, Dunn Co. Population, 500. A village in Tiffany township, on the Wisconsin Central railroad, 23 miles northwest of Menomonie, 73 miles from Minneapolis, 160 miles from Superior and 53 miles from Eau Claire. Express, United States. Telegraph and telephone. Shipping facilities and passenger service good.

Has electric lights, a bank, drug store, 4 grocery stores, a hardware store, one department and two dry goods stores, 2 hotels and a boarding house; graded schools employing 4 teachers; one physician and a lawyer, German Lutheran and Methodist churches.

Steam power would have to be used for manufacturing. Wood is used for fuel, obtained from the adjacent country at reasonable prices. There is plenty of available help here. This would be a good location for a canning factory, wooden box and tub factories.

The surrounding country is good for farming and only about 50 per cent of the land suitable for crop raising is improved. The country is rolling with a small portion sandy and swampy.

DOWNSVILLE.

Downsville, Dunn Co. Not incorporated. Population, 200. On the C. M. & St. P. Ry., in Dunn township, 9 miles south of Menomonie, the county seat and nearest banking point; 31 miles from Eau Claire, 85 miles from Minneapolis and 92 miles from La Crosse. Express United States. Telegraph and telephone connections. Good freight facilities and passenger service.

Has 2 drug stores, 2 grocery stores, 2 general merchandise stores, graded school employing 3 teachers, 1 physician, 1 hotel and 3 boarding houses. Wood is used for fuel and is obtained from the surrounding country. The country surrounding the village is good for farming, although quite rough. About 25 per cent of the land suitable for crop raising is improved.

EAU GALLE.

Eau Galle, Dunn Co. Population, 250. A village on the Eau Galle river, in Eau Galle township, 18 miles southwest of Menomonie, 6 miles from Durand, Pepin county, the nearest banking and shipping point, and 30 miles from Eau Claire. Telephone connections. Stage daily to Durand.

Has a small water power, electric lights, 1 drug store, 2 grocery stores, 1 hardware store, 2 dry goods stores, 2 wagon and blacksmith shops, feed mill, creamery, graded school employing 3 teachers, 1 physician, 2 boarding houses, Catholic and Methodist churches. Wood is used for fuel, obtained from farmers in the vicinity. Vegetables, clay, sand, timber and limestone can be had. A number of men, women and young persons could be se-

cured to work in factories. This is a good location for a stave mill.

The adjacent country is good for farming and about 60 per cent of the land suitable for crop raising is improved. The soil is a sandy loam, and about 50% of the land is level and free from stone. 20% is rough and 30% sandy.

ELKMOUND.

Elkound, Dunn Co. Population, 250. A village on the C. St. P. M. & O. Ry., 12 miles east of Menomonie, the county seat, 12 miles from Eau Claire, 88 miles from Minneapolis and 167 miles from Superior. Express, American. Telegraph and telephone. Shipping facilities good. Six passenger trains daily.

The village has a bank, drug store, 3 grocery stores, 2 hardware stores, 2 general merchandise stores, graded school employing 2 teachers, hotel and boarding house, Congregational church, 1 physician, blacksmith shop and a flax mill.

This would be a good location for a canning factory as the country can furnish plenty of vegetables for canning. The village can be supplied with building stone and some timber. Help can be secured in the village and adjacent country. Better hotel accommodations are needed.

Elkound is surrounded by a good farming country and about all the land suitable for crop raising is improved. About 75% of the land is level and free from stone.

MENOMONIE.

Menomonie, Dunn Co. Population, 5,473. An incorporated city located on the C. M. & St. P. and the C. St. P. M. & O. Ry's and on the Red Cedar river in Dunn county, of which it is the judicial seat; 27 miles from Eau Claire, 70 miles from St. Paul, 177 miles from Superior, and 240 miles from Milwaukee. American and United States Express. Telegraph and telephone. Shipping facilities and passenger service good.

The city has a good system of water works and a large water power not utilized. Has gas and electric light plants, 3 banks, 3 drug stores, 3 grocery stores, 3 hardware stores, 3 department stores, 1 dry goods store, laundry, 3 hotels, a number of boarding houses, churches of all the leading denominations, excellent schools, the Stout Manual training school, a free public institution ranking among the best in the state. A magnificent memorial building contains a library of 8,000 volumes. The manufacturing industries comprise grist mills, planing mills, foundry and machine shops, gasoline engine plant, 3 brick companies

making about 30 million bricks annually. Has two weekly newspapers. There is a fine opening here for a tile factory.

Wood and coal are used for fuel. Wood is obtained at the local markets. Plenty of help can be secured in the city and adjacent country. Vegetables can be supplied for canning. There are inexhaustible beds of clay suitable for brick and pottery. The city is a good location for the following industries: Beet sugar factory, canning factory, cold storage plant, tile and woodenware factories.

The city is in the midst of a rich farming country. The soil is a black loam west of the city, clayey loam north and sandy loam south. About all of the land suitable for crop raising is improved. Dairying and stock raising is an important industry. The soil is adapted to vegetables and root crops.

RIDGELAND.

Ridgeland, Dunn Co. Population 100. A village on the M. St. P. & S. Ste. M. Ry., in Wilson township, 28 miles north of Menomonie the county seat and $6\frac{1}{2}$ miles from Dallas the nearest banking point; 115 miles from St. Paul, 18 miles from Barron, 144 miles from Superior. Express, Western. Telegraph and telephone. Shipping facilities and passenger service fair.

Has 2 general merchandise stores, a hotel, a graded school employing 2 teachers, 1 physician, a creamery, blacksmith shop and a lumber yard.

Steam power would have to be used for manufacturing. Vegetables could be supplied for canning, and clay, sand, timber and stone are the natural products. A small amount of help can be secured.

There is an opening here for a starch or canning factory, and a heading mill. It would be a good location for a harness and shoe shop.

The village is new but the country is quite thickly settled with a thrifty and well-to-do class of farmers. The soil is very fertile and produces large crops of hay and vegetables. Dairying and potato growing are the principal industries.

EAU CLAIRE COUNTY.

Eau Claire county is located in the west central part of the state. The area of the county is 620 square miles, with a population in 1905 of 33,519, showing a gain of 1,827 over 1900. Over one-fourth of the population is of foreign birth, Norwegians and Germans constituting the larger number. In 1905 the farm area was 271,360 acres, or about 68% of the area of the county. Of this amount only 166,433 acres were improved. In 1890 the farm area was 225,108 acres, of which 133,249 acres were improved. The value of the farms in 1905 including improvements was \$7,612,360, while in 1890 it was but \$3,480,190. With the exceptions of the valleys of the Eau Claire and Chippewa rivers and their tributaries Eau Claire county has a comparatively level surface. The soil in the northwestern part of the county is a clayey loam of the lighter variety and supporting a growth of hardwood and hemlock. In the valleys of the Eau Claire and Chippewa rivers, for several miles on each side of the stream the soil is a sandy loam, with the exception of the west, central part where there is a tract of prairie loam. The pine which covered a large part of this county has all been cut. The chief crops of the county and the acreage devoted to each in 1890 and 1905 were approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	7,730	4,556
Corn.	15,899	14,154
Oats	27,023	47,609
Barley	1,158	4,152
Rye.	4,342	5,427
Hay	34,482	39,178

Buckwheat is also an important crop. There were in 1905 only 1 cheese factory and 9 creameries in the county. The prices for unimproved tillable land varies from \$5 to \$20 per acre. For improved farm land the range of prices is from \$25 to \$75 per acre. Eau Claire is the largest city and county seat. The following table shows the population statistics of the cities, villages, and towns in the county for 1905:

EAU CLAIRE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Altoona, city	174	385	332	717	717	....	....	8	124
Augusta, city	341	661	766	1,426	1,418	8	....	28	220
Bridge Creek	253	712	623	1,335	1,335	....	....	20	240
Brunswick	128	373	291	664	664	....	....	12	133
Clear Creek	131	428	371	797	797	....	....	5	134
Drammen	159	444	369	813	813	....	....	9	159
Eau Claire, city:									
ward 1.....	217	800	690	1,490	1,483	7	....	....	....
ward 2.....	274	818	518	1,337	1,625	*12	....	....	....
ward 3.....	496	1,043	1,264	2,307	2,305	2	....	....	....
ward 4.....	192	493	439	932	935	2	....	....	....
ward 5.....	365	747	795	1,542	1,542	....	....	....	....
ward 6.....	508	980	1,158	2,138	2,133	....	....	....	....
ward 7.....	484	1,064	1,104	2,168	2,168	....	....	....	....
ward 8.....	386	1,171	962	2,133	2,128	6	....	....	....
ward 9.....	463	1,207	1,159	2,366	2,366	....	....	....	....
ward 10.....	376	999	1,120	2,019	2,019	....	....	....	....
Total, city..18,737								162	3,276
Fairchild	112	299	264	563	563	....	....	3	70
Fairchild, village	180	392	414	806	806	....	....	9	146
Lincoln	313	973	829	1,802	1,802	....	....	12	356
Luddington	214	496	430	926	925	1	....	10	143
Otter Creek	137	386	323	709	709	....	....	7	157
Pleasant Valley	208	589	461	1,050	1,050	....	....	7	213
Seymour	114	318	268	586	586	....	....	3	93
Union	173	634	492	1,126	1,126	....	....	4	153
Washington	292	789	673	1,462	1,462	....	....	7	247
Total	6,690	17,204	16,315	33,519	33,482	37	....	304	5,880

*3 Chinamen.

ALTONA.

Altoona, Eau Claire Co. Population, 717. An incorporated village on the C. St. P. M. & O. Ry., the Eau Claire river and Otter Creek in Washington township, $3\frac{1}{2}$ miles east of Eau Claire, the nearest banking point. American Express. Telegraph and telephone. Shipping facilities and passenger service good.

This village has 2 general merchandise stores, graded school employing 4 teachers, Methodist Episcopal church, 2 hotels, 2 boarding houses, 3 restaurants, barber shop, meat market, etc.

No water power here; coal is used for fuel, obtained at Eau Claire or Superior. Plenty of men, women and young persons could be hired to work in factories. Vegetables are the only raw materials that could be furnished in sufficient quantities for canning. Good location for vegetable canning factory.

The village is surrounded by a good farming country and about $2/3$ of the land suitable for crop raising is improved. The soil is a sandy loam. Good crops of vegetable and potatoes are produced.

AUGUSTA.

Augusta, Eau Claire Co. Population, 1,426. An incorporated city located on the main line of the C. St. P. M. & O. Ry., 23 miles southeast of Eau Claire, the county seat, 110 miles from St. Paul, 181 miles from Madison and 250 miles from Milwaukee. American Express. Telegraph and telephone. Excellent shipping facilities and passenger service.

Has electric lights, 1 bank, 2 drug stores, 2 hardware stores, 4 general merchandise stores, 3 hotels, 1 jewelry store, 2 millinery stores, 2 restaurants, 3 meat markets, 3 barber shops, 3 harness shops, 4 blacksmith shops, grist mill, planing mill, 2 wagon shops, 3 elevators, brick and tile works, Baptist, Catholic, Lutheran, Methodist and Universalist churches, a new \$27,000 high school building, (10 teachers employed), 4 physicians and 3 lawyers. Two weekly newspapers are published.

Steam power is used. Wood and coal are used for fuel. Wood is obtained from the adjacent country and coal is shipped in. A canning factory could be furnished with fruit and vegetables. Clay, sand, timber and stone are the natural products. The city and surrounding country can furnish any amount of help needed. There are no idle factories and no failures have occurred here in past years. There is a good opening here for a furniture and boot and shoe factory or canning factory. The surrounding country is good for farming and about 60 per cent of the land suitable for crop raising is improved. About 50 per cent of the land is level and free from stone, 20 per cent rough, 5 per cent swamp and 25 per cent sandy.

EAU CLAIRE.

Eau Claire, Eau Claire Co. Population, 18,737. Is a flourishing city located on both sides of the Chippewa and Eau Claire rivers, and on the C. St. P. M. & O., the C. M. & St. P., and the Wisconsin Central Ry's., in the central part of western Wis., and in the northwest part of Eau Claire county of which it is the county seat. Is 84 miles east of St. Paul, 155 miles from Superior, 184 miles from Madison, 206 miles from Milwaukee and 361 miles from Chicago. American, National and United States Express. Telegraph and telephone. Shipping facilities and passenger service unexcelled.

The name is of French derivation and signifies clear water. The city has 4 public parks, a good sewerage system, paved streets, an electric fire alarm system, an efficient street railway system, having interurban connections with the city of Chippewa Falls, 12 miles north. Midway between these two cities is Lake Hallie, a summer resort with attractive surroundings. The city is lighted by electricity, has gas plant, an abundant supply of pure water, an immense water power, 3 banks, 9 drug stores, 20 grocery, 6 hardware, 1 department and 4 dry goods stores, and 2 laundries. The leading religious denominations are well repre-

sented. There are ample hotel accommodations and an opera house costing about \$60,000 with a seating capacity of 1,200; a high school building costing \$80,000, an excellent system of ward schools, a fine public library and a hospital under the care of the Sisters of Mercy. There are 4 weekly and 2 daily newspapers. The chief water power is supplied by a dam across the Chippewa river, having 18 feet head, and 2 dams across the Eau Claire river supply the linen and other mills with power. The Chippewa river is the second largest river in the state and receives the waters of the Eau Claire river at this point. These rivers spanned by good bridges, are studded with numerous manufacturing institutions, consisting principally of large saw mills, 2 foundries, a pulp and paper mill, a refrigerator factory, a linen mill, 2 furniture factories, a fruit canning establishment, 3 shoe factories, a box factory, 2 breweries, a porkpacking house, a tannery, bottling works, candy factory, 2 carriage and 1 bedding factory. Among recent manufacturing enterprises that have been established in the city are a stove and heading mill, shoe factory and a lumber company.

Wood and coal are used for fuel; the former is obtained in the vicinity. Plenty of help can be secured in the city. Fruit and vegetables are furnished for canning purposes. The city can be supplied with clay for the manufacture of brick, tile and pottery. There are no idle factories or workshops in the city. There are good openings here for the manufacturing of wood, iron and clay products.

The city is surrounded by a good farming country and the land suitable for crop raising is nearly all improved. The soil is a sandy loam and is formed for the most part of disintegrated Potsdam sandstone with vegetable mould in the composition. The surface is level and free from stone.

FAIRCHILD.

Fairchild, Eau Claire Co. Population, 806. An incorporated village on the C. St. P. M. & O. Ry., and the F. & N. E. Ry., in Fairchild township, 32 miles southeast of Eau Claire, the county seat, 119 miles from St. Paul, 152 miles from Madison and 240 miles from Milwaukee. American Express. Telegraph and telephone. Shipping facilities good.

Has a bank, 2 general stores, Catholic, German Lutheran and Methodist churches; high school employing 8 teachers, 1 hotel, 2 boarding houses, 1 physician, 1 lawyer, 1 dentist, a blacksmith and wagon shop, creamery, furniture and undertaking establishment,

meat market, restaurant, barber shop, etc. There is an opening here for a canning factory or woodenware factory. A weekly newspaper is published.

There is no water power. Wood is used for fuel which is supplied by the surrounding country and local mills. A limited amount of help, mostly men, could be secured here. All kinds of vegetables could be furnished for canning factory. The village can be supplied with timber.

The soil of the adjacent country is a sandy loam and produces good crops. About half of the land suitable for crop raising is improved. Near the village the land is nearly all level and free from stone, 20 per cent is swampy and 50 per cent sandy.

FALL CREEK.

Fall Creek, Eau Claire Co. Population, 530. An unincorporated village located on the main line of the C. St. P., M. & O. Ry., in Lincoln township, 14 miles southeast of Eau Claire, the county seat, 100 miles from St. Paul, 170 miles from Madison and 250 miles from Milwaukee. Good shipping facilities and passenger service. American Express. Telegraph and telephone.

Has a bank, 1 drug store, 3 general merchandise stores, 2 hardware stores and harness shops combined, 1 clothing store, 3 hotels, 3 churches, a graded school employing 4 teachers, 2 physicians, blacksmith shops, meat markets, barber shops and furniture store.

There is no water power. Help can be secured in the village and vicinity. Vegetables can be supplied for canning purposes. Clay, sand, timber and stone are the natural products.

The adjoining country is good for farming and all the land suitable for crop raising is improved. The soil is a sandy loam, about 65 per cent being level and free from stone, 20 per cent rough and 15 per cent sandy.

FLORENCE COUNTY.

Florence county is located in the northeastern part of the state on the Michigan boundary line. The area of the county is 498 square miles. The population in 1905 was only 3,522, which was a gain of 325 over 1900. Over one-third of the population is of foreign birth, of which the Swedes constitute

the larger part. This is one of the most undeveloped counties in the state, the total farm acreage, 17,717 acres, being less than 6% of the area of the county. There are only 5,692 acres of improved farm land in the county. The value of the farms with their improvements in 1905 was \$208,170. In 1890 the total farm area was 13,388 acres of which only 1,650 acres were improved. The value in 1890 was \$117,690. The surface of the county is rolling and more or less hilly. The soil covering the western two-thirds of the county is a light clayey loam. In the eastern part the soil is a sandy loam, while along the Menomonee River it is quite sandy for several miles from the river. There is a considerable growth of hardwoods in the county. In an agricultural way very little has been accomplished. A small amount of wheat and barley is grown but oats is the principal crop, the area devoted to this grain in 1905 being about 1,000 acres. About 3,200 acres are devoted to hay and grasses. A considerable portion of this county could very profitably be devoted to sheep raising. The price for unimproved timber land averages \$15 per acre, and for unimproved tillable land the average price is \$8 per acre. Improved farm lands are worth about \$25 per acre. Florence is the largest city and county seat. The following table shows the population of the different cities, villages, and towns in the county for 1905:

FLORENCE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Commonwealth	130	400	323	723	723	.....	.....	4	138
Florence	337	1,134	807	1,941	1,941	.....	.....	9	532
Homestead	159	540	318	858	858	.....	.....	.....	185
Total	626	2,074	1,448	3,522	3,522	.....	.....	13	855

COMMONWEALTH.

Commonwealth, Florence Co. Population, 500. A village on the C. & N. W. Ry., 1 mile south of Florence, the county seat and banking point. American Express. Telegraph. Shipping facilities fair.

Is a mining town. Has a general merchandise store, a dealer in agricultural implements, a saw mill, a blacksmith, a physician and a graded school with 4 teachers.

There is water power here that could be utilized, estimated at 3,000 horsepower. Plenty of help can be secured in the village and country. About one-half of the surrounding country is suitable for farming and about 1/10 improved. About 50 per cent of the land is sandy, and 10 per cent swampy. Only a small per cent of the country is rough but a great deal of it is stony. The soil is good and the land is covered with hardwood timber, such as maple, elm, basswood, hemlock, spruce, tamarack, black birch, cedar, and small pine.

FLORENCE.

Florence, Florence Co. Population, 1,500. Is an unincorporated city located on the C. & N. W. Ry., on Fisher lake, Florence county, of which it is the county seat; 67 miles northwest of Escanaba, Mich., and 263 miles north of Milwaukee. American Express. Telegraph and telephone. Fair shipping facilities and passenger service.

The city was first settled in 1880. Is located on the banks of Fisher lake, has water works, electric light plant, a bank, drug store, 4 groceries, 2 hardware and 3 general stores, furniture store, 3 hotels, 3 boarding houses, high and graded public school employing 20 teachers, Catholic, Episcopal, German Lutheran, Presbyterian and Swedish Lutheran churches, 2 physicians, 2 lawyers, and numerous shops. A weekly newspaper is published. Iron ore is mined in the adjacent country.

There is a good water power here estimated at 1,500 horsepower not utilized. Wood is used for fuel and is supplied in large quantities from the surrounding country. There is plenty of clay, sand, stone, timber and iron ore in the vicinity. Plenty of help can be secured in the village. This is a good location for a woodenware factory and saw mills. A good hotel is needed.

The surrounding country is good for farming and only about 3000 acres are improved. About 1-3 of the land is level and free from stone. There is some swampy and sandy land.

FOND DU LAC COUNTY.

Fond du Lac county is located in east central Wisconsin at the lower end of Lake Winnebago. The area is 720 square miles. The population in 1905 was 50,825, a gain of 3,236 over 1900. Nearly one-fifth of the population is foreign born, of which number Germans constitute considerably over half. In 1905 the farm acreage was 425,892 acres, practically all of the tillable land of the county. Of this amount 320,016 acres were improved. The value of these farms including improvements was \$27,609,473, as compared with \$18,609,040 in 1890. The topography of the county is rolling and hilly, especially in the southern part but it has been considerably modified by erosion. The soils of the county are largely clayey loam of the lighter varieties. Bordering on Lake Winnebago the soil is a red clay of the heavier variety. This soil extends some miles westward from the lake but not far on the eastern side. In the eastern part of the county there is a belt of very fertile heavy clayey loam. Several large areas of prairie loams exist in the northern and western parts. In the southwest corner there is an area of calcereous sandy loam. Small irregular tracts of marshy soils are found in different parts of the county. The principal crops of the county and the acreage devoted to each in 1890 and 1905 were approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	33,861	3,285
Corn	24,445	33,369
Oats	45,547	62,325
Barley	43,751	68,734
Potatoes	3,587	58,562
Hay	76,443	58,562

Clover seed is also an important crop in this county. It is one of the foremost wool growing counties in the state. Its dairying interests are represented by 59 cheese factories and 34 creameries. There is very little land in the county which cannot be made tillable and most of it has been partially improved. The average price for such lands is \$50 per acre. For improved land prices range from \$50 to \$100 per acre.

Fond du Lac is the county seat. The following table shows the population statistics of the cities, villages and towns in the county in 1905:

FOND DU LAC COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indiana.		
Alto	254	648	585	1,233	1,233	.....	.....	.....	240
Ashford	263	692	649	1,341	1,341	.....	.....	4	254
Campbellsport, village	163	342	372	714	714	.....	.....	11	120
Anburn	229	557	527	1,084	1,084	.....	.....	6	200
Byron	256	690	547	1,227	1,227	.....	.....	6	261
Calumet	250	666	694	1,360	1,363	.....	7	5	252
Eden	262	727	603	1,330	1,330	.....	.....	5	246
Eldorado	272	701	627	1,328	1,328	.....	.....	7	283
Empire	161	481	389	870	870	.....	.....	.....	191
Fond du Lac	232	670	585	1,255	1,254	.....	1	10	220
N. Fond du Lac, village	873	1,169	785	1,944	1,944	.....	.....	3	633
Fond du Lac, city:									
ward 1.....	218	554	495	1,049	1,049	.....	.....	.....	.....
ward 2.....	240	552	509	1,061	1,057	.....	4	.....	.....
ward 3.....	260	532	565	1,097	1,097	.....	.....	.....	.....
ward 4.....	267	590	577	1,167	1,165	2	.....	.....	.....
ward 5.....	239	529	484	1,013	1,001	12	.....	.....	.....
ward 6.....	264	535	528	1,063	1,043	20	.....	.....	.....
ward 7.....	293	536	609	1,145	1,140	5	.....	.....	.....
ward 8.....	269	560	572	1,122	1,121	1	.....	.....	.....
ward 9.....	237	533	612	1,145	1,145	.....	.....	.....	.....
ward 10.....	260	460	573	1,023	1,023	.....	.....	.....	.....
ward 11.....	249	431	597	1,028	1,022	6	.....	.....	.....
ward 12.....	253	509	591	1,100	1,100	.....	.....	.....	.....
ward 13.....	251	519	527	1,046	1,046	.....	.....	.....	.....
ward 14.....	227	587	488	1,075	1,075	.....	.....	.....	.....
ward 15.....	263	536	564	1,100	1,100	.....	.....	.....	.....
ward 16.....	237	520	530	1,050	1,050	.....	.....	.....	.....
Total, city..17,234								145	3,646
Forest	211	648	510	1,158	1,158	.....	.....	5	197
Friendship	177	471	402	873	873	.....	.....	8	193
Lamartine	254	631	572	1,203	1,203	.....	11	.....	231
Marshfield	353	1,014	886	1,900	1,900	.....	.....	1	357
Metomen	260	635	577	1,212	1,212	.....	.....	2	259
Brandon, village	210	295	349	644	644	.....	.....	6	93
Onkfield	176	421	411	832	832	.....	.....	4	183
Onkfield, village	165	246	302	548	549	.....	.....	15	75
Oscola	198	590	512	1,102	1,102	.....	.....	7	172
Ripon	229	547	467	1,014	1,014	.....	.....	4	221
Ripon, city:									
ward 1.....	212	411	429	840	840	.....	.....	7	154
ward 2.....	242	464	592	1,056	1,056	.....	.....	10	195
ward 3.....	211	394	484	878	878	.....	.....	11	147
ward 4.....	337	452	585	1,037	1,037	.....	.....	8	158
Total, city..3,511									
Rosendale	228	545	528	1,073	1,073	.....	.....	6	229
Springvale	224	579	512	1,091	1,091	.....	.....	5	237
Taycheedah	243	663	603	1,266	1,266	.....	.....	7	210
Waupun	242	563	486	1,054	1,054	.....	.....	1	202
Waupun, city:									
ward 5.....	117	212	231	443	413	.....	.....	.....	.....
ward 6.....	180	209	322	631	631	.....	.....	.....	.....
Total, city..*3,111								15	204
Total	11,261	23,871	24,954	50,825	50,767	46	12	338	10,338

*Includes total in Dodge and Fond du Lac counties.

BRANDON.

Brandon, Fond du Lac Co. Population, 641. An incorporated village on the C. M. & St. P. Ry., in Metomen township, 16 miles southwest of Fond du Lac, 27 miles from Oshkosh, 103 miles from Madison, 78 miles from Milwaukee and 161 miles from Chicago. United States Express. Telegraph and telephone. Shipping facilities good. Four passenger trains daily.

Water is supplied from wells. Has gas plant, bank, drug store, 2 hardware stores, 4 general merchandise stores, jewelry store, furniture store, 2 hotels, a boarding house, high school employing 6 teachers, Congregational, Evangelical, German Lutheran and Methodist Episcopal churches, 3 physicians and a lawyer, 2 harness shops, blacksmith shops, 2 grain elevators, butter tub factory, cheese factory and 2 creameries. A weekly newspaper is published.

Steam power is used for manufacturing purposes. Wood and coal are used for fuel, the former being obtained from the farmers in the vicinity and the latter from Milwaukee. Vegetables could be furnished for canning, and clay, sand, peat and stone can be supplied in large quantities. There are several quarries in the vicinity yielding a superior quality of granite. This would be a good location for a canning factory or glove factory, and plenty of help can be secured in the village and surrounding country. A butter tub factory and cheese box factory are idle, caused by the owner having large interests in another line of business. The owner of a flour mill failed here at one time caused by the general depression of business.

Brandon has fine streets and walks, beautiful shade trees, two small public parks, public hall, a \$10,000 high school building, good business buildings and residences.

The village is located in one of the best farming sections in the state and the land is all improved. The soil is a clay loam and is all level and free from stone.



SHEEP CLEARING THE LAND IN NORTHERN WISCONSIN.

MT. CALVARY.

Mt. Calvary, Fond du Lac Co. Population, 400. Not incorporated. A village located on the Sheboygan river, in Marshfield township, 13 miles northeast of Fond du Lac, the county seat and banking point, and 2 miles from Calvary on the C. & N. W. Ry., 27 miles from Sheboygan, 79 miles from Milwaukee and 104 miles from Chicago. American Express. Telegraph and telephone.

Has 3 general merchandise stores, 1 hotel, 1 physician, a flour mill, brewery, blacksmith and wagon shops, harness shop, hardware and furniture store, and a Mutual Fire Insurance company. St. Lawrence college is located here.

No water power. Coal and wood are used for fuel. Wood is obtained in the vicinity and coal at Sheboygan. Such raw materials as fruit and vegetables can be furnished for canning purposes. There are no manufacturing industries of any kind in the village.

The surrounding country is good for farming and most of the land suitable for crop raising is improved. About one-third of the land is rough and stony with a clay subsoil.

CAMPBELLSPORT.

Campbellsport, Fond du Lac Co. Population, 714. An incorporated village located on the C. & N. W. Ry., in Ashford and Auburn townships, 16 miles southeast of Fond du Lac, the county seat, 47 miles from Milwaukee and 132 miles from Chicago. American Express. Telegraph and telephone. Good shipping facilities and passenger service.

Is lighted by electricity, has a bank, drug store, 4 grocery stores, 2 hardware stores, 3 general merchandise stores, 2 furniture stores, flour mill, blacksmith and wagon shops, cigar factory, glove factory, lumber yards, 3 hotels, 3 physicians, 1 lawyer, graded public schools employing 5 teachers, Baptist, Catholic, Methodist and Reformed churches and a weekly newspaper.

Steam power would have to be used here. Wood and coal are used for fuel, both are shipped in, coal from Fond du Lac or Milwaukee. Corn and peas can be supplied for canning and this ought to be a good location for such a factory. Clay, sand and stone are the natural products which can be supplied in any quantity. A limited amount of help can be secured in the village and adjoining country. A cheese box factory failed here some years ago, caused by insufficient capital. The adjacent country is good for farming purposes and about all the land suitable for crop raising is improved. Good clay soil, some swamps near the lakes.

EDEN.

Eden, Fond du Lac Co. Population, 158. Not incorporated. A small village on the C. & N. W. Ry., in Eden township, 7 miles southeast of Fond du Lac, the county seat and banking point, 25 miles from Oshkosh, 56 miles from Milwaukee and 141 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service good.

Has 4 general merchandise stores, 1 hardware store, 1 hotel, 2 boarding houses, 1 resident physician, blacksmith shops, barber shops, etc.

Steam power would have to be used. Coal is used for fuel obtained at Fond du Lac or Milwaukee. Fruit, vegetables and peas can be supplied in sufficient quantities for canning. There is a supply of clay, sand, peat, timber and stone near the village. Plenty of help can be secured in the village and adjacent country. Good location for a cold storage plant.

The surrounding country is good for agricultural purposes and 75 per cent of the land suitable for crop raising is improved. About 50 per cent of the land is level and stony, good clay soil and a small per cent swamps. A large amount of peas are raised and dairying is an important occupation.

FAIRWATER.

Fairwater, Fond du Lac Co. Population, 350. Not incorporated. A village located on the Grand river, and on the C. M. & St. P. Ry., in Metomen township, 25 miles west of Fond du Lac, the county seat, 35 miles from Oshkosh, 81 miles from Milwaukee and 166 from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has a bank, drug store, 4 grocery stores, 2 hardware and 3 dry goods stores, 2 hotels, 1 boarding house, graded schools, employing 3 teachers, a physician, Baptist and German Lutheran churches, 2 blacksmith shops, 2 creameries, 2 elevators and a harness shop.

There is a small water power that could be used for manufacturing purposes. Coal is the fuel used, shipped from Milwaukee. A canning factory could be supplied with fruits and vegetables. Clay, sand and stone can be furnished. Some help can be secured in the vicinity.

The village is surrounded by a fine farming country and all the land suitable for crop raising is improved. Has a rich clay soil and is practically all level and free from stone.

FOND DU LAC.

Fond du Lac, Fond du Lac Co. Population, 17,291. The county seat of Fond du Lac county, is located at the southern extremity of Lake Winnebago, on the C. M. & St. P. Ry., the C. & N. W. Ry., and the Wisconsin Central line, 17 miles from Oshkosh, 90 miles from Madison, 64 miles from Milwaukee and 140 miles from Chicago. American, National and United States Express. Telegraph and telephone. Shipping facilities are unsurpassed. It has communication by water through Lake Winnebago and the Fox river into Green Bay, connecting it with the whole chain of lakes. The three railways radiating to all parts of the United States give it all the advantages of the western cities in the sale of its manufactures in eastern markets. Besides the competition afforded by the water route, it is instrumental in regulating freight rates.

The city is lighted by electricity, has a gas plant, water works, an efficient fire department, 4 banks, 8 drug stores, 20 grocery stores, 10 hardware stores, 3 department stores, 7 dry goods stores, 2 laundries, 4 good hotels, 12 boarding houses, churches of all the leading religious denominations, excellent public schools employing 100 teachers. There are 25 physicians, 25 lawyers, 3 daily and 3 weekly newspapers, foundries and machine shops, plow works, carriage and wagon factories, shirt and overall factories, refrigerator, sash, door and blind factories, boiler works, mattress factory. planing mills, canning factory, breweries, file works, furniture factories, box factories, drug mill, one of the largest tannery and leather manufactories in the country, and manufactories of

saw mill machinery, creamery supplies, cigars, brooms, patent medicines, candies, bicycles, etc. This city was one of the pioneer lumbering towns of the state, and, although the supply of pine has been exhausted, there is a large quantity of hardwood timber in the vicinity which is now being utilized for manufacturing purposes. There is an \$85,000 court house, opera house and a young ladies' school. St. Agnes Hospital and Sanitarium, one of the best appointed in the state, was erected at a cost of \$40,000 and occupies the ground adjoining St. Agnes convent. An electric railway connects the city with Oshkosh, Appleton and Green Bay. There are 2 daily, 1 semi-weekly and 2 weekly newspapers.

A first-class hotel is needed. Vegetables are furnished for canning and the city is supplied with clay, sand, stone, peat and timber. There are no idle factories or workshops in the city and no failures in the manufacturing lines have ever occurred. The country adjoining the city is a fine agricultural section and nearly all the land is improved.

The city has fine streets, 2 public parks, plenty of shade trees, good public buildings of all kinds, handsome business blocks and private residences and all the facilities and appointments of a first-class city.

OAKFIELD.

Oakfield, Fond du Lac Co. Population, 548. An incorporated village on the C. & N. W. Ry., in Oakfield township, 9 miles southeast of Fond du Lac, 26 miles from Oshkosh, 81 miles from Madison, 73 miles from Milwaukee and 158 miles from Chicago. American Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has a bank, drug store, 2 grocery stores, 2 hardware stores, 2 general merchandise stores, a furniture and undertaking establishment, 2 hotels, 3 boarding houses, good schools employing 5 teachers, Baptist, German Lutheran, Methodist Episcopal and Protestant Episcopal churches, 4 physicians, 1 lawyer, a free library, a mutual fire insurance company, meat market, 2 blacksmith shops, 2 grain elevators, lumber yard and 2 coal dealers. A weekly newspaper is published.

Steam power would have to be used for manufacturing purposes. Wood, coal, peat and coak are used for fuel. Peat is obtained from a peat plant four miles away and the others

are shipped in. This would be a good location for a canning factory. Plenty of help can be secured in the village and adjacent country. The village can be supplied with clay, sand, peat and stone.

Oakfield is surrounded by a very rich farming country and all the land suitable for crop raising is improved.

RIPON.

Ripon, Fond du Lac Co. Population, 3,811. Incorporated as a city in 1868. Located at the junction of the C. M. & St. P. and C. & N. W. Ry's, 23 miles west of Fond du Lac, 22 miles from Oshkosh, 107 miles from Madison, 88 miles from Milwaukee and 168 miles from Chicago. American and United States Express. Telegraph and telephone. Shipping facilities good. Eight passenger trains daily.

Has a complete system of water works, sewerage, gas and electric lights, 2 banks, 5 general merchandise stores, 4 drug stores, 14 grocery and 3 hardware stores, 4 hotels, 6 physicians and 10 lawyers. The city affords the very best religious and educational advantages. Is the seat of Ripon College, one of the oldest and best known educational institutions in the northwest. Has 2 flour mills, marble works, machine shops and gas engine works, a brewery, 2 pickle factories, knitting works, a wind mill factory, 2 glove and mitten factories, 2 grain elevators, creameries, an agricultural and horticultural implement factory, planing mill for interior wood work, sash, door and blind, office and saloon fixtures and box factories. Two weekly newspapers are published. The city is located in the finest prairie country in the state and is the distributing point for a wide area. Is a great center for the growth and shipment of small fruit, cucumbers, wool, grain, live stock, farm and dairy products.

Steam power is used for manufacturing and coal is used for fuel and can be obtained at Oshkosh, Fond du Lac or Milwaukee. Plenty of help can be secured in the city and vicinity. This would be a good location for a canning factory as large quantities of fruit and vegetables are produced. The city can be supplied with sand, peat and stone.

The city has paved streets, beautiful drives, fine shade trees, nice public buildings and business blocks. Is a city of homes, churches and schools and is only 6 miles from Green Lake, a very attractive summer resort.

The surrounding country is one of the best farming sections

in Wisconsin. The land is level and free from stone and all improved.

ST. CLOUD.

St. Cloud, Fond du Lac, Co. Population, 200. Not incorporated. A village on the Sheboygan river and on the C. & N. W. Ry., in Marshfield township, 22 miles from Fond du Lac, 12 miles from Plymouth the nearest banking point, 26 miles from Sheboygan, 78 miles from Milwaukee and 163 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities good. Six passenger trains daily.

Has 2 general merchandise stores, graded school employing 3 teachers, one hotel, 2 boarding houses, a physician, a shoe factory, cheese factory, saw mill, blacksmith shop, harness shop and barber shop.

There is no water power. Coal and wood are used for fuel. The former is obtained at Sheboygan and the latter from the surrounding country. Clay, sand and timber are the natural products with which the village can be supplied. Help can be secured in the village and adjacent country. This would be a good location for a cheese box factory.

The surrounding country is good for farming and about 50 per cent of the land suitable for crop raising is improved. The land is about 25 per cent rough, 50 per cent level but stony, 25 per cent swampy, 12½ per cent sandy and the remainder level and free from stone.

WAUPUN.

Waupun, Fond du Lac Co. Population, 3,111. A city located on the C. M. & St. P. Ry., being about evenly divided between Dodge and Fond du Lac counties, but is awarded by the postal authorities to the latter. Is 34 miles from Oshkosh, 82 miles from Madison, 69 miles from Milwaukee and 154 miles from Chicago. United States Express. Telegraph and telephone. Shipping facilities and passenger service good. Busses run to Chester, 3 miles distant making regular connections with trains on the C. & N. W. Ry.

Has a system of water works, is lighted by electricity, has 2 banks, 3 drug stores, 8 grocery stores, 4 hardware stores, 2 furniture stores, 1 department and 4 dry goods stores, 2 clothing and 1 shoe store, 2 jewelry stores, 3 hotels, 3 boarding houses, excellent schools employing 15 teachers, churches of the leading denominations, 2 harness shops, 2 elevators, 1 bakery, a steam laundry, a windmill and pump factory, flour mill, plow factory, knitting factory, box factory, shoe factory, 2 carriage works, umbrella factory, cigar factory, creamery, brewery, etc. Two weekly newspapers are published.

There is no water power here, necessitating the use of steam for manufacturing purposes. Coal is used for fuel. Plenty of

help can be secured in the city and surrounding country to work the entire year. Fruit and vegetables can be supplied in sufficient quantities. Clay, sand, peat and stone are the natural products.

The city is located in a rich agricultural section and the land is all under cultivation. Waupun is the site of the state Prison. Has good macadam streets, an abundance of shade trees, public library, opera house. good business blocks and beautiful homes. Is a good location for a canning factory, brick yard or lime kiln.

FOREST COUNTY.

Forest county is located in the northeastern part of the state on the Michigan boundary line. The area is 1,424 square miles. The population in 1905 was 5,968, a gain of 4,529 over 1900. About one-fifth of the population is of foreign birth, of which number, Germans are the most numerous. Very little as yet has been done in this county with agriculture. It offers many thousand acres to the settler at very reasonable prices. While it is one of the largest counties in the state, yet the total area devoted to farming in 1905 was but 18,369 acres, or less than 3% of the total area of the county. Only 3,594 acres are improved land. The value of these farms, including improvements, was \$350,975, as against \$42,790 in 1890. The surface of the county is rough and rolling in some parts, but not enough to interfere with tillage. It has as a rule been modified by erosion and deposition of the glacial period. The soil is very largely a clayey loam, stony in places, except in the northwestern part where it changes to a sandy loam. Throughout the county there are numerous areas of swampy land, composed mainly of muck and peat. Where farms have been cleared in this county the soil has shown itself capable of producing good grain and grasses as well as corn. Oats and hay are at present the leading crops. A large part of this county could, with profit, be devoted to sheep raising. The price of unimproved land averages about \$8 per acre. For improved farm land, the prices range from \$40 to \$60 per acre. Crandon is the county seat and most important city. The population of the various cities, villages and towns in the county for 1905 is shown by the following table:

FOREST COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Caswell	51	316	88	44	404	.....	.....	2	221
Crandon	461	1,071	935	2,006	1,801	.....	*206	7	443
Hiles	59	314	121	435	435	.....	.....	1	212
Laona	150	681	327	1,008	986	.....	23	2	333
North Crandon	122	259	180	439	439	.....	.....	1	57
Wabeno	254	1,152	524	1,676	1,600	5	71	4	672
Total	1,097	3,793	2,175	5,968	5,664	5	299	17	1,333

*4 Indians not taxed.

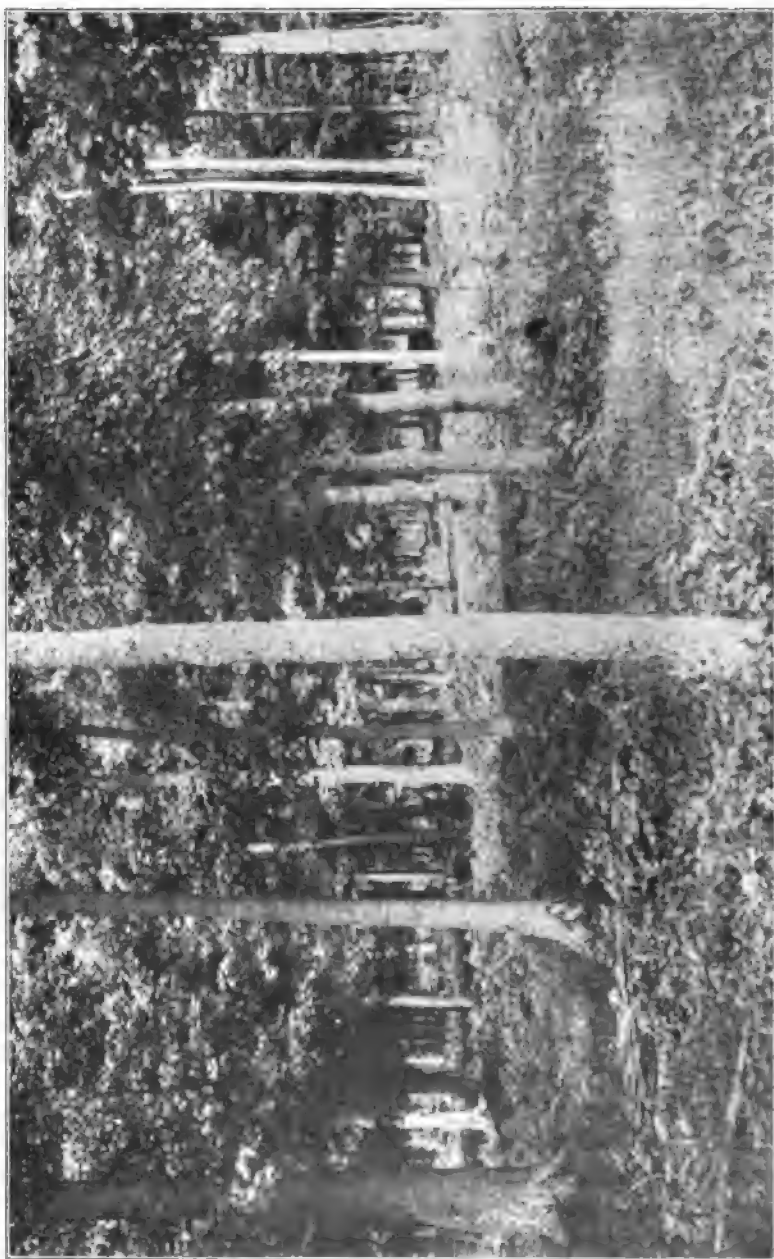
CRANDON.

Crandon, Forest Co. Population, 1,600. The county seat of Forest county is situated on the C. & N. W. Ry., and on Lake Matonga, 151 miles from Ashland, 88 miles from Wausau, and 252 miles from Milwaukee. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

Has a bank, 2 drug stores, 5 grocery stores, 2 hardware stores, 1 department store and 2 dry goods stores, 1 jewelry store, 3 fair-sized hotels, 2 boarding houses, high school employing 10 teachers, good churches, 2 resident physicians, 4 lawyers, clothing store, shoe store, meat markets, blacksmith shops, etc. A weekly newspaper is published. There is 1 factory manufacturing hardwood specialties, a saw and planing mill, hub factory and head- ing mill. This is a fine location for woodwork establishment.

Steam power is used. Wood is used for fuel, being very plentiful in the adjoining country. Plenty of help can be secured in this vicinity to work in factories. Timber and clay can be supplied in large quantities.

The adjacent country is covered with a dense hardwood forest and only a small amount is improved. The land is suitable for farming after the timber is removed. A small per cent of the land is rough, about 20 per cent stony, 20 per cent swamp and the remainder level and free from stone.



A TYPICAL PIECE OF HARDWOOD TIMBER IN FOREST COUNTY, WIS.

LAONA.

Laona, Forest Co. Population, 500. A village in Laona township, on C. & N. W. Ry., 14 miles from Crandon, the county seat and banking point, 107 miles from Green Bay, 155 miles from Oshkosh and 235 miles from Milwaukee. American Express. Telegraph and telephone. Shipping facilities good.

There is no water power here but there are 3 general merchandise stores, 2 hotels, graded school employing 4 teachers, 2 churches, 2 physicians, 2 barber shops and a saw mill.

This is simply a lumbering town and very little attention is paid to anything else. The adjoining country is suitable for agricultural purposes, but only a very small portion is improved. The land is covered with immense forests of hardwood timber.



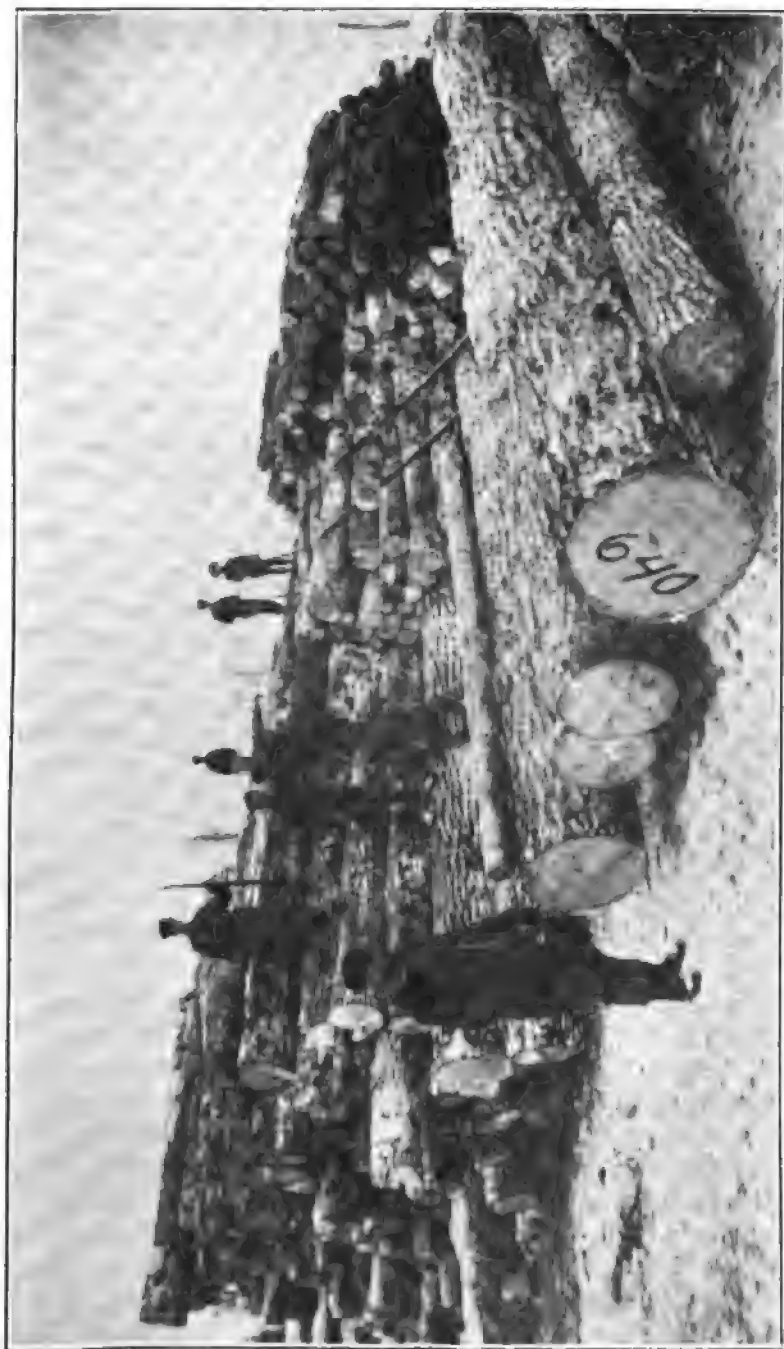
A NEW HOME.

NORTH CRANDON.

North Crandon, Forest Co. Population, 300. An unincorporated village on the M., St. P. & S. Ste. M. Ry., in Crandon township, $7\frac{1}{2}$ miles north of Crandon, the county seat and nearest banking point, 27 miles east of Rhinelander, and 200 miles from Milwaukee. Western Express. Telegraph and telephone. Good shipping facilities east or west.

Has 4 general stores, 2 hotels, 2 boarding houses, graded schools employing 4 teachers, a weekly newspaper, blacksmith shop, an excelsior factory and several saw mills.

A small water power could be utilized. Wood is used for fuel obtained from the surrounding country at reasonable prices. A canning factory could be supplied with vegetables.



LOGGING IN NORTHERN WISCONSIN.

Clay, sand, timber and stone are the natural products. A limited amount of help can be secured in the vicinity. This would be a good location for a grist mill or pulp mill.

The surrounding country is suitable for agriculture and only about 10 per cent is improved. The soil is a clay loam and about 50 per cent is level and free from stone.

WABENO.

Wabeno, Forest Co. Population, 600. An unincorporated village in Wabeno township, on the C. & N. W. Ry., 25 miles southeast of Crandon, the county seat, 97 miles from Green Bay and 225 miles from Milwaukee. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

This is principally a lumbering town. Has small water power, 1 drug store, 5 general merchandise stores, 1 hardware and furniture store, 3 hotels, 3 boarding houses, good schools, 3 churches, 2 physicians, 1 lawyer, a weekly newspaper, 2 meat markets, 2 restaurants and several saw mills.

Wood is used for fuel, obtained from the adjoining country. Sand, timber, stone, vegetables and wild berries are the raw materials. Plenty of help can be secured in the village and country. There is a good opening here for a veneer or excelsior factory.

The country will be good for farming when the timber is removed. Only about 1,000 acres are improved at present. About 50 per cent of the land is level and free from stone.

GRANT COUNTY.

Grant county is located in the southwestern part of the state on the Mississippi river.

The area is 1,157 square miles. The population in 1905 was 39,629, a gain of 748 over the census of 1900. Of the total population only 4,491 are of foreign birth, of which number nearly one-half are Germans. It is one of the richest agricultural counties in the state. The farm area in 1905 was 672,591 acres, of which 391,800 acres were improved. In 1890 the total farm area was 656,426 acres. The value in 1905 of these farms, including improvements, was \$23,110,588 as compared with \$15,491,246 in 1890. The Wisconsin, Grant and Platte rivers with their tributaries, have trenched the land in such a manner as to make some portions of the county very rough and hilly. The bluffs along the

Mississippi and Wisconsin rivers are steep, and the roads traversing these parts of the county have very sharp grades. The soil along the rivers is mainly a sandy loam. The remainder of the county is covered with light varieties of clayey loam with some large irregular tracts of prairie loams. There is no humous soil in the county and therefore no lakes. The chief crops and the acreage of each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Corn	86,389	90,086
Oats	87,324	70,535
Barley	1,563	7,737
Rye	7,324	4,295
Hay	75,186	82,812

In 1905 there were 29 cheese factories and 36 creameries in the county. It is one of the foremost wool-producing counties in the state. It is located in the lead and zinc belt of the state, and mining is one of the chief industries of the county. There is a very wide range in prices of land owing to the uneven surface and diversified soil. For unimproved land which can be made tillable, prices range from \$8 to \$35 per acre. For improved farm lands, the price averages over \$100 per acre with some sales recorded at as high as \$200 per acre. The county seat is Lancaster. The population of the cities, villages and towns for 1905 will be found on page 560.

BLOOMINGTON

Bloomington, Grant Co. Population 608. An incorporated village on the Little Grant river, in Bloomington township, 14 miles northwest of Lancaster, the county seat, 12 miles from Bridgeport, on the C. M. & St P. Ry., and 10 miles from Glen Haven, on the C., B. & Q. Ry., the usual shipping points. Telephone connections.

Has a bank, drug store, grocery store, 2 hardware stores, 5 general merchandise stores, jewelry and furniture stores, 2 millinery shops, a shoe store, music store, clothing store, graded public schools employing 7 teachers, Baptist, Catholic, Congregational and Methodist churches, 1 hotel, 4 boarding houses, 2 restaurants, 2 meat markets, 2 blacksmith shops, harness shop and a creamery. Has a weekly newspaper, 4 resident physicians and a lawyer. Stage daily to Lancaster, Glen Haven and Bridgeport.

GRANT COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indiana.		
Beetown	254	577	494	1,071	1,060	11	.....	19	221
Bloomington	131	329	296	625	623	2	.....	4	150
Bloomington, village ..	179	296	312	608	608	.....	.....	18	120
Boscobel	81	74	66	140	140	.....	.....	5	17
Boscobel, city	428	754	880	1,634	1,632	2	.....	57	280
Cassville	110	343	308	651	640	8	5	5	111
Cassville, village	247	430	483	913	913	.....	.....	21	170
Castle Rock	131	357	354	711	711	.....	.....	3	147
Clifton	236	541	514	1,055	1,052	3	.....	10	208
Ellenboro	157	373	355	728	728	.....	.....	7	145
Fennimore	163	401	372	773	773	.....	.....	16	148
Fennimore, village	270	489	564	1,053	1,053	.....	.....	22	172
Glen Haven	180	417	380	797	797	.....	.....	8	175
Harrison	191	532	442	974	974	.....	.....	18	174
Hazel Green	164	462	760	1,222	1,222	.....	.....	3	177
Hazel Green, village ..	137	289	240	529	529	.....	.....	10	123
Hickory Grove	133	363	333	696	695	1	.....	3	140
Jamestown	196	483	483	966	966	.....	.....	3	162
Lancaster, city	610	1,172	1,383	2,555	2,542	13	.....	63	408
Liberty	182	431	407	838	838	.....	.....	10	124
Lima	209	504	446	950	950	.....	.....	15	191
Little Grant	113	306	243	549	548	1	.....	7	114
Marion	114	301	279	580	580	.....	.....	3	108
Millville	60	152	139	291	291	.....	.....	9	54
Mt. Hope	155	346	310	656	656	.....	.....	11	131
Mt. Ida	154	382	355	737	737	.....	.....	12	137
Muscoda	83	234	214	448	448	.....	.....	2	89
Muscoda, village	193	353	342	735	735	.....	.....	14	107
North Lancaster	119	285	259	574	561	13	.....	2	17
Paris	147	413	255	768	768	.....	.....	14	161
Patch Grove	137	303	282	585	585	.....	.....	5	123
Platteville	167	454	408	862	862	.....	.....	12	166
Platteville, city:									
ward 1	397	622	673	1,295	1,295	.....	.....	.....	.....
ward 2	262	559	675	1,234	1,234	.....	.....	.....	.....
ward 3	231	448	569	1,017	1,016	1	.....	.....	.....
ward 4	192	420	472	892	892	.....	.....	.....	.....
Total, city	4,438							84	950
Potosi	307	728	713	1,441	1,441	.....	.....	7	257
Potosi, village	109	224	226	450	450	.....	.....	10	83
Smelser	202	483	448	931	931	.....	.....	6	173
Cuba City, village	185	378	377	755	755	.....	.....	12	151
South Lancaster	169	535	444	979	970	9	.....	14	181
Waterloo	178	444	405	849	849	.....	.....	11	167
Watterstown	154	331	323	654	654	.....	.....	7	132
Wingville	163	420	398	818	818	.....	.....	5	173
Montfort, village	147	311	288	599	597	2	.....	3	124
Woodman	90	229	203	442	442	.....	.....	5	90
Wyalusing	241	532	467	999	999	.....	.....	28	174
Total	7,809	19,820	19,899	39,629	39,560	64	5	593	7,496

Coal and wood are used for fuel. Wood is obtained from the surrounding country and coal from the east. A canning factory can be supplied with fruit and vegetables. A limited amount of help can be secured in the vicinity. The village can be supplied with clay, sand, timber and stone. A large two-story stone

building formerly occupied as a flour and feed mill, is now empty. No cause for idleness given.

The village is located in a good farming country and the land is nearly all improved. Only about 10 per cent of the land is rough. The soil is fertile and free from stone.

BLUE RIVER.

Blue River, Grant Co. Population, 300. A small village on the C. M. & St. P. Ry., 35 miles from Prairie du Chien, 63 miles from Madison, 145 miles from Milwaukee and 233 miles from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has a bank and 3 general-merchandise stores, graded school, 2 hotels, a physician, blacksmith shop, meat market, barber shop, lumber yard, etc.

Wood is used for fuel, obtained from the adjoining country. A canning factory can be supplied with fruit, vegetables and fish. Help can be secured in the vicinity.

The adjacent country is good for farming and about two-thirds of the land, suitable for crop raising, is improved. The soil produces good crops.

BOSCOBEL.

Boscobel, Grant Co. Population, 1,634. An incorporated city on the Wisconsin river and on the C. M. & St. P. Ry., 20 miles north of Lancaster, the county seat, 70 miles from Madison, 152 miles from Milwaukee and 237 miles from Chicago. United States Express. Telegraph and telephone. Freight facilities and passenger service good.

The city is located one mile south of the Wisconsin river, has good streets, plenty of shade trees, cement walks, 3 public parks, good business buildings and beautiful residences. Has electric light plant, 2 banks, 2 drug stores, 9 grocery stores, 2 hardware stores, 4 dry goods stores, 2 furniture stores, 4 hotels, 3 boarding houses, 5 physicians, 4 lawyers, an excellent high and graded school system employing 13 teachers, 6 churches representing the leading religious denominations. In manufacturing lines there are 2 wagon shops, a cigar factory, glove factory, flour mill, brewery, rustic chair factory and cheese factory. A weekly newspaper is published. Good location for woodenware factory.

A large amount of help can be secured in the city and surrounding country. A canning factory could be supplied with fruit and vegetables. Clay, sand, stone, timber and zinc are the natural products. There are no idle factories or workshops in the city and no failures in that line have ever occurred here.

The surrounding country is good for farming and about 2/3 of the land, suitable for crop raising is improved. The soil is a sandy loam, about one-third rough and a small per cent swampy.

CASSVILLE.

Cassville, Grant Co. Population, 913. An incorporated village on the Mississippi river and on the C., B. & Q. Ry., 17 miles southwest of Lancaster, 28 miles from Dubuque, 86 miles from La Crosse and 213 miles from Chicago. Adams Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has electric light plant, a bank, drug store, 4 grocery, 2 hardware, and 4 dry goods stores, 2 furniture stores, 2 millinery stores, 3 hotels, 2 boarding houses, 3 physicians, 1 lawyer, 4 churches, good high school employing 8 teachers, 2 blacksmith shops, 3 cigar shops, a canning factory, brewery, 2 meat markets, a planing mill, 2 harness shops, brick yard, 2 stone quarries and a livery and feed stable. Two weekly newspapers are published.

There is one canning factory here now doing a profitable business. The village can be supplied with clay, sand stone, timber, iron, zinc and lead. Any amount of help can be secured in the village and vicinity. A sash and door factory, a wagon factory or foundry would be acceptable to the village.

In the adjacent country all the land, suitable for crop raising, is improved.

FENNIMORE.

Fennimore, Grant Co. Population, 1,053. An incorporated village located on the C. & N. W. Ry. in Fennimore township, 76 miles from Madison, 158 miles from Milwaukee and 243 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

Has electric light plant, 2 banks, 2 drug stores, 1 grocery store, 3 hardware stores, 3 general merchandise stores, 2 hotels, 3 physicians, 1 lawyer, high and graded schools employing 10 teachers, has 6 churches, 2 creameries, flouring mill, meat markets, blacksmith shops and a weekly newspaper.

Plenty of help can be secured in the vicinity to work the entire year. A canning factory could be supplied with fruit and vegetables and perhaps other raw material. A good location for a canning factory or tobacco warehouse. The natural products of adjacent country are clay, sand, timber and lead ore.

The village is located in a fine farming country and a large per

cent of the land, suitable for crop raising, is improved. The elevation of the village brings to view some very fine scenery. A narrow gauge railway connects Fennimore and Woodman, a village on the Prairie du Chien division of the C. M. & St. P. Ry.

GLEN HAVEN

Glen Haven, Grant Co. Population, 797. An unincorporated village on the Mississippi river and on the C., B. & Q. Ry., 17 miles from Prairie du Chien, 37 miles from Dubuque, and 222 miles from Chicago. Adams Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has a bank, 2 groceries, 1 hardware and 2 dry goods stores, 2 hotels, 2 boarding houses, graded school employing 2 teachers, 1 physician, meat market, blacksmith shop, lumber yard, harness shop and a wagon shop.

Wood is used for fuel, cut from the timbers along the river. A canning factory can be supplied with fruit, vegetables and fish. Clay, stone, timber and lead are the natural products. A limited amount of help can be secured in the vicinity.

The adjacent country is good for farming and about 50 per cent of the land suitable for crop raising is improved. About 75 per cent of the land is level and free from stone.

LANCASTER

Lancaster, Grant Co. Population, 2,555. An incorporated city located near the center of Grant county, of which it is the county seat, and on the C. & N. W. Ry., 86 miles from Madison, 168 miles from Milwaukee and 253 miles from Chicago. American Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has an abundant supply of the purest water, is lighted by electricity, is connected with four different telephone systems, has 2 banks, 2 drug stores, a number of grocery stores, 4 hardware stores, 1 department store, 7 dry goods stores, 2 laundries, 4 hotels, an excellent high and graded school system employing 14 teachers, churches of the leading religious denominations, 7 physicians, 6 dentists, 11 lawyers. Besides the usual number of shops, etc., there is a sash and door factory, planing mill, 2 flour and feed mills, 2 cigar factories and 2 mining exchanges. Two weekly newspapers are published.

A site would be furnished free to either a beet sugar, canning or overall factory. Steam power is used and wood and coal are used for fuel. Wood can be obtained on the local market. A canning factory can be supplied with such raw materials as fruit

and vegetables, and plenty of help can be secured here. Clay, sand, stone, zinc and lead are the natural products.

About 75 per cent of the land surrounding the city, suitable for crop raising, is improved. The city is located in the best farming section in the county and does a large amount of business.

LIVINGSTON.

Livingston, Grant Co. Population, 300. An unincorporated village on the C. & N. W. Ry., 15 miles northeast of Lancaster, 41 miles from Galena, Ill., 69 miles from Madison, 151 miles from Milwaukee and 236 from Chicago. American Express. Telegraph and telephone. Good shipping facilities. Passenger service fair.

Has a bank, drug store, 2 hardware stores, 3 general merchandise stores, 1 hotel, 2 boarding houses, graded public school employing 3 teachers, churches, 2 physicians, 2 blacksmith shops, meat market and barber shops. There are several lead and zinc mines in the vicinity and the village can be supplied with sand, stone, zinc and lead. The surrounding country is the very best farming land and is all improved.

MONTFORT.

Montfort, Grant Co. Population, 599. An incorporated village on the C. & N. W. Ry., in Wingville township, 22 miles northeast of Lancaster, the county seat, 63 miles from Madison, 145 miles from Milwaukee and 230 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

Has 2 banks, 1 drug store, 2 groceries, 2 hardware stores, 4 general merchandise stores, 2 hotels, 2 churches, a graded public school employing 7 teachers, 2 physicians, 1 lawyer, a weekly newspaper, 4 blacksmith shops, grain elevator, 2 coal dealers, 3 mining exchanges, 1 restaurant, 1 millinery store, 2 furniture stores, 2 meat markets, a jewelry and stationery store, creamery and lumber yards. A weekly newspaper is published. The village is in need of a first-class hotel.

There is no water power. Coal and wood are used for fuel. Wood is obtained from the adjacent country and coal from Galena, Ill. A canning factory could be supplied with fruit, vegetables and corn. Sand, stone, timber, zinc, lead and clay are the natural products. This is a good location for a brick yard. There is plenty of help to be had in the village and adjacent country.

The surrounding country is good for farming and all the land

suitable for crop raising is improved. The land north of the village is rough, but the remainder is level and free from stone.

MUSCODA.

Muscoda, Grant Co. Population, 735. An incorporated village located on the Wisconsin river and on the C., M. & St. P. Ry., 41 miles northeast of Lancaster, 56 miles from Madison, 133 miles from Milwaukee and 223 miles from Chicago. United States Express. Telegraph and telephone. Passenger service and shipping facilities good.

Muscoda is a very pretty little village, has wide macadamized streets, cement walks, nice shade trees, good school buildings, substantial business buildings and residences. The main part of the town is about one mile from the Wisconsin river, which, with its many islands covered with beautiful foliage, and a line of wooded hills south of the village, affords some fine natural scenery. The village would make an ideal summer resort.

Has electric light plant, a bank, 2 furniture stores, drug store, grocery store, 2 hardware stores, 3 general merchandise stores, 2 hotels, a boarding house, graded public schools employing 7 teachers, a Catholic parochial school, 3 churches of the leading religious denominations, 2 physicians, 1 lawyer, and a weekly newspaper. There is an insulator pin and bracket factory, furniture factory, brewery, a brick yard 3 miles from the village and a number of cheese factories here and in the adjacent country.

Steam power is used here. Wood is used for fuel as there is plenty of timber in the adjacent country. This would be a good location for a canning factory using fruit and vegetables. The village can be supplied with clay, sand, timber and stone. Factories employing labor would have no trouble in securing plenty of help in the village and vicinity. The population is made up of Germans and Bohemians, furnishing a class of laborers steady and reliable. This is a good location for a tobacco warehouse.

The surrounding country is good for farming and is nearly all improved. The soil is a sandy loam and produces abundant crops.

PATCH GROVE.

Patch Grove, Grant Co. Population, 350. A small inland village in Patch Grove township, 7 miles from Bridgeport on the C., M. & St. P. Ry., the nearest shipping point. Has telephone connections, stage daily to Bridgeport, Lancaster and Bloomington.

The village is supplied with a bank, drug store, grocery and hardware store, 2 general merchandise stores, a hotel, good

graded school employing 3 teachers, Catholic and Methodist churches, a physician, a lawyer, harness shop, wagon shop, creamery, blacksmith shop, meat market, etc.

New manufacturing industries locating here would be furnished site for building, and have no trouble in securing plenty of help. Steam power would have to be used. Wood is used for fuel and is obtained in the vicinity. The village would welcome a canning factory and the adjacent country would furnish a supply of fruit and vegetables. There is plenty of clay, sand, timber and stone in the country. There are some good business openings in this village that will bear investigation. A new hotel is needed.

The surrounding country is a first class agricultural section and all of the land is improved. All of the land near the village is level and free from stone.

PLATTEVILLE.

Platteville, Grant Co. Population, 4,438. An incorporated city, located in the southeastern part of the county, on the C. & N. W. and C., M. & St. P. Rys., 33 miles from Galena, Ill., 88 miles from Madison, 170 miles from Milwaukee and 255 miles from Chicago. American and United States Express. Telegraph and telephone. Good facilities for the receipt and shipment of freight. Four passenger trains daily on the C. & N. W., and six on the C., M. & St. P. Ry.

Is lighted by electricity, has 2 banks, 3 drug stores, 15 grocery stores, 4 hardware stores, 3 dry goods stores, 1 laundry, 3 clothing and 2 shoe stores, 1 general store, 4 hotels with total capacity for 100 guests, 7 physicians, 8 lawyers, the very best educational advantages, 20 teachers employed in the city schools, has a state normal school and 2 German Lutheran parochial schools, 11 churches representing all the leading denominations. Has a foundry and machine shop, a large creamery, feed mill, carriage, plow and wagon factories, 4 cigar factories and a brewery. Three weekly newspapers are published. Lead and zinc mining are the principal industries.

Steam power is used here. Coal is used for fuel, shipped in from Illinois. The city can be supplied with clay, sand, stone, zinc, lead and iron sulphur for sulphuric acid. There is a splendid opening here for a sulphuric acid plant. There might be some difficulty encountered in securing help in the city. There have been a few failures of manufacturing industries in the city caused by conditions for which the city or location was not responsible.

The surrounding country is good for farming and about two-thirds of the land is level and free from stone. The city is in the

center of the lead and zinc mining country and is in a very prosperous condition. This is a good location for a zinc smelter, brick yard and tiling and concrete factory. More hotels are needed; also a zinc ore dealer.

POTOSI.

Potosi, Grant Co. Population, 450. An incorporated village on the Mississippi river and on the C., B. & Q. Ry., 14 miles from Dubuque, 40 miles from Prairie du Chien, 99 miles from La Crosse and 199 miles from Chicago. Adams Express. Telegraph and telephone. First class shipping facilities and passenger service.

Has a bank, drug store, grocery store, hardware store, 2 general merchandise stores, 2 hotels, a physician, high and graded school employing 6 teachers, Congregational and Catholic churches, furniture store, 2 millinery stores, a harness shop, 2 blacksmith shops, a brewery, a restaurant, and a livery stable.

A canning factory could be supplied with fruit, vegetables and fish. Steam power would have to be used for manufacturing. Wood is used for fuel and is obtained from the vicinity. No help can be secured here.

The adjacent country is good for farming and nearly all the land is improved. Heavy clay soil, rough along the river, some swampy along the river. The village is a mining town and a large mine is in operation in the village.

PRESTON.

Preston, Grant Co. Population, 60. A station on the C. & N. W. Ry, 14 miles northeast of Lancaster, the county seat, and 4 miles from Montfort, the nearest banking point, 72 miles from Madison, 154 from Milwaukee and 239 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service good.

Has one general store. The surrounding country is a fine farming section and abundant crops are produced. Wood for fuel is obtained from the farmers near by. Fruit and vegetables can be supplied for canning and there is plenty of clay, sand, stone, timber and lead in the vicinity.

GREEN COUNTY.

Green county is located in the south central part of the state on the Illinois-Wisconsin boundary line. It has an area of 576 square miles. The population in 1905 was 22,390. Nearly one-fifth of the population is of foreign birth, Swiss constituting the larger number, with Germans second in num-

ber. The farm acreage in 1905 was 339,714 acres, which is all the tillable land in the county. Of this amount 271,721 acres were improved land. The value of the farms in 1905 including improvements was \$20,138,624, as compared with \$13,156,860, in 1890, a gain of \$6,981,764 or 53 per cent in 15 years. The surface of the county in the western part is rough and hilly, while that of the eastern section is more of the rolling, regular type. In the eastern and northwestern part of the county the soil is a sandy loam. The central and southern part is a prairie soil. The western and remaining portions of the county are a light variety of clayey loam. An excellent drainage system is accorded by a net-work of small streams. There is very little humus soil, the only traces of it being found in a few places near the eastern and northern boundaries. Green county is one of the richest agricultural counties in the state. The principal crops of the county and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	44,832	57,995
Barley	1,180	7,283
Rye	4,011	3,023
Corn	52,399	56,120
Hay	56,516	71,000

Green county is the premier dairy county in the state and one of the foremost in the United States. There are 201 cheese factories and 4 creameries located within its boundaries. There is also some lead and zinc mining in the western part of the county. The range of prices for improved farm property is from \$40 to \$120 per acre. Monroe is the county seat. The following table shows the population statistics of the different cities, villages and towns in the county for 1905:

GREEN COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Adams	153	466	344	810	810	.....	.....	2	181
Albany	142	348	314	662	662	.....	.....	.....	156
Albany, village	219	396	426	822	817	5	.....	13	112
Brooklyn	196	460	410	870	870	.....	.....	6	181
Brooklyn, village	84	153	133	286	266	.....	.....	5	86
Brodhead, city*	491	783	884	1,667	1,663	4	.....	40	237
Cadiz	262	597	527	1,124	1,124	.....	.....	22	234
Browntown, village ..	83	151	126	277	277	.....	.....	5	43
Clarno	270	643	546	1,189	1,189	.....	.....	.....	196
Decatur	140	332	264	596	595	1	.....	4	156
Exeter	184	420	385	805	805	.....	.....	7	165
Jefferson	288	634	554	1,188	1,187	1	.....	9	237
Jordan	177	512	379	891	891	.....	.....	4	117
Monroe	162	518	404	922	921	1	.....	5	171
Monroe, city*	1,118	1,962	2,307	4,269	4,269	.....	.....	82	740
Mount Pleasant	146	394	317	711	711	.....	.....	4	122
Monticello, village ..	161	315	294	609	609	.....	.....	6	91
New Glarus	123	408	277	685	685	.....	.....	1	170
New Glarus, village ..	185	348	307	655	655	.....	.....	9	140
Spring Grove	219	488	441	929	929	.....	.....	9	211
Sylvester	172	436	350	786	786	.....	.....	6	143
Washington	142	418	312	730	730	.....	.....	3	190
York	169	493	414	907	907	.....	.....	8	163
Total	5,288	11,675	10,715	22,390	22,378	12	.....	255	4,212

*Wards not given.

ALBANY.

Albany, Green Co., is an incorporated village of 822 inhabitants, located on the C., M. & St. P. Ry., 150 miles from Chicago, 25 miles from Janesville and 99 miles from Milwaukee. United States Express. Telegraph and telephone. Has good freight facilities. four passenger trains daily.

Coal for fuel is shipped from Illinois. An abundance of fruit, vegetables, sand, stone and clay can be supplied. A canning factory is the most desirable industry for this place. The village is supplied with an electric light plant, 2 banks, 2 drug stores, 5 groceries, 1 hardware, 3 dry goods stores, 2 restaurants, 2 millinery stores, 2 cigar factories, 2 machine shops, 1 linen mill, 1 hotel, a high school and five physicians. It has no lawyer. A first class hotel would do a good business here. The village has a fine park and can be made a summer resort, having a beautiful lake and stream of water near by.

Nearly all the land surrounding the village is improved, and mostly level and just sandy enough to keep the soil loose. The principal occupations of the farmers are dairying, stock raising and tobacco growing.

BRODHEAD.

Brodhead, Green Co., is a city of 1,667 population, located on the C., M. & St. P. Ry., 143 miles from Chicago, 18 miles from Janesville and 82 miles from Milwaukee. United States Express. Telegraph and telephone. Has four passenger trains daily. Good facilities for receipt and shipment of freight.

The city is supplied with electric light, 2 banks, 2 drug stores, 3 groceries, 2 hardware stores, 6 dry goods stores, a laundry, 3 hotels, 2 newspapers, a creamery, a machine shop, 8 physicians, 2 lawyers, a high school employing 12 teachers, cement walks, shady, well kept streets, a library, park, and small lake, 3 miles from the city. Such raw materials as sand, stone, clay, fruit and vegetables can be procured in the vicinity and some inducements would be offered for an establishment that can utilize the materials. Tobacco is also grown here. A canning or other light manufacturing establishment is best suited for the place.

The soil is of the best and about 90 per cent of the land of the surrounding country is improved. Dairying and stock raising are the leading occupations of the farmers. There is some sandy land in the vicinity.

BROOKLYN.

Brooklyn, Green Co., is an incorporated village of 286 people, located on the C. & N. W. Ry., 123 miles from Chicago, 15 miles from Madison, and 20 miles from Janesville. American Express. Has six passenger trains daily. Excellent facilities for receipt and shipment of freight.

The village has a bank, 1 drug store, 3 groceries, 1 hardware, 1 general store, a chair factory, 1 creamery, a tobacco warehouse, 1 elevator, 1 hotel, 1 physician and a graded school. To make the chair factory a success more capital is needed.

Wood secured from the surrounding country and coal from Illinois are the fuels used. Vegetables and tobacco are about the only raw materials that can be supplied.

Nearly all the surrounding country is excellent for farming purposes, mostly improved, slightly rolling, little stony or marshy and very fertile. Tobacco growing and stock raising are the chief occupations.

BROWNTOWN.

Browntown, Green Co., is an incorporated village having a population of 377, located on the C., M. & St. P. Ry., 167 miles from Chicago, 43 miles from Janesville, and 106 miles from Milwaukee. United States Express. Telegraph and telephone. Has four passenger trains daily. Good facilities for receipt and shipment of freight. Illinois Central Ry., one-half mile from village.

The village is supplied with 1 bank, 1 drug store, 3 groceries, 1 hardware, 2 dry goods stores, a bakery and restaurant, a cream-

ery, grist mill, 2 hotels, a graded school and 1 physician. Coal is shipped from Illinois. Such raw materials as vegetables, clay, sand and peat can be obtained from near the village. Any small manufacturing concern employing from thirty to forty people is best adapted to this place.

The surrounding country is an excellent farming district, nearly all being improved. The soil is a clayey loam, level, free from sand, stone and marshes. Dairying is the leading occupation of the farmers.

DAYTON.

Dayton, Green Co., is an unincorporated village of about 300 people, located on the Sugar river, about two and one-half miles from the Illinois Central Ry.

The village is supplied with 1 grocery, 2 dry goods stores, 1 hotel and a graded school. Clay, lead and vegetables are raw materials that can be supplied, and a limited amount of help procured.

The soil of the farms surrounding the village is fertile and nearly all improved.

MARTINTOWN.

Martintown, Green Co., is an unincorporated village of about 200 population on the Illinois Central Ry., 20 miles from Freeport, 70 miles from Galena, 88 miles from Dubuque and 134 miles from Chicago. Has 2 passenger trains daily. American Express. Facilities for receipt and shipment of freight good.

Such raw material as vegetables, sand, clay and stone can be supplied. About 5 acres of land near the depot can be had for manufacturing purposes. About 50 laborers, 25 men and 25 young persons, can be secured. The village has some undeveloped water power. It is supplied with one grocery store, a creamery, a blacksmith shop, a grist mill, a saw mill and a lime kiln.

About one-half the land of the surrounding country is hilly and about one-half improved. Near the bluffs the land is stony, but little sandy and no swamps. The improved land is very fertile and all is suitable for general farming or stock raising.

MONROE.

Monroe, Green Co., is a city having 4,299 inhabitants. Is located on the C., M. & St. P. Ry. and the Illinois Central Ry., 33 miles from Janesville, 139 miles from Chicago, 97 miles from Milwaukee and 25 miles from Freeport. Has 8 passenger trains daily. Both United States and American Express. Excellent freight facilities.

The city has a gas plant, an electric light plant, 3 banks, 3 drug stores, 7 groceries, 4 hardware, 4 dry goods stores, 2 laundries, a condensed milk factory, 2 carriage factories, a brewery, 3 newspaper establishments, a planing mill, a glove factory, an excellent public school system, 10 physicians, 9 lawyers, a public park, excellent streets, well supplied with shade trees, 4 hotels and 2 boarding houses. Cement and tile works are desired.

Such raw materials as fruit and vegetables can be supplied. There are good prospects near the city for zinc ore. About 150 laborers can be procured. Coal shipped from Illinois and wood are used as fuel. This city is a first class location for a cold storage plant. There is a factory building formerly used for a glove factory that can be secured reasonably cheap. The firm which ran the factory closed it up on account of lack of capital.

The land of the surrounding country is excellent for farming purposes, nearly all improved, free from stone, swamps and sand, and nearly level. Stock raising and dairying are the chief occupations of the farmers. Zinc and lead mining is attracting considerable attention.

NEW GLARUS.

New Glarus, Green Co., is an incorporated village of 655 inhabitants, located on the C., M. & St. P. Ry., 142 miles from Chicago, 17 miles from Janesville and 81 miles from Milwaukee. Telegraph and telephone. United States Express. Good freight and passenger facilities.

The village has an electric light plant, 1 bank, 1 drug store, 4 groceries, 2 hardware stores, 1 general store, a brewery, 3 blacksmith shops, 2 furniture stores, a cheese factory, 2 hotels, 1 boarding house, a public school, employing 5 teachers, and 1 physician.

Such raw material as clay, sand, stone, peat, timber, lead, fruit and vegetables can be supplied. A condensed milk factory would be a most suitable enterprise for the place. From fifty to seventy-five persons can be procured to work in a factory.

About three-fourths of the land of the surrounding country

suitable for farming is improved, more or less rolling, but the soil is a rich clayey loam. Dairying is the leading occupation of the farmers.

GREEN LAKE COUNTY.

Green Lake county is located in the east central part of the state, a little southwest of Lake Winnebago. The area is 364 square miles. The population in 1905 was 15,838, a slight gain over the census of 1900. Nearly one-fourth of the population is of foreign birth, of which number Germans are by far the most numerous. The farm area in 1905 was 200,474 acres, or practically all of the tillable land of the county. Of this area 117,639 acres are improved land. The value of these farms, including improvements in 1905, was \$10,609,375 as against \$6,102,720 in 1890. The surface of the county is somewhat broken and contains isolated hills or knobs of rocks which rise above the surrounding country. The surface is largely covered with glacial drift which varies greatly in thickness and composition. Covering the western and northern portions of the county the soil is a light and easily worked sandy loam, which is pre-eminently a potato soil. The eastern and central part of the county is a prairie loam, light and open in texture. The foundation and structure of this soil give it a most excellent drainage which contributes to its exceptional native fertility. The remaining portion of the county is a light variety of clayey loams. Several irregular areas of humus soil, composed mainly of muck and peat, occur in the western part. The chief crops and the acreage devoted to each in 1890 and 1905 were approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	16,189	3,124
Oats	19,343	32,395
Barley	7,986	10,189
Rye	6,409	6,039
Corn	18,381	22,155
Hay	31,649	29,919

Clover seed and timothy seed are also important crops. There are 8 creameries in the county. The price for good unimproved land averages \$40 per acre. The range of prices for improved

farm land is from \$60 to \$100 per acre. The village of Dartford is the county seat. The population of the cities, villages and towns of the county for 1905 was as follows:

GREEN LAKE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Berlin	163	422	356	778	778	.....	.....	8	149
Berlin, city:									
ward 1.....	190	369	424	793	793	.....	.....	7	135
ward 2.....	250	544	619	1,163	1,162	*1	.....	14	204
ward 3.....	255	502	549	1,051	1,051	.....	.....	22	170
ward 4.....	166	335	377	712	710	2	.....	8	111
ward 5.....	191	416	462	878	878	.....	.....	20	114
Total, city, 14,638									
Brooklyn	198	513	436	949	949	.....	.....	6	210
Dartford, village	140	254	273	527	527	.....	.....	16	97
Green Lake	223	612	567	1,179	1,179	.....	.....	6	192
Kingston	176	367	358	725	725	.....	.....	7	137
Mackford	186	446	405	851	851	.....	.....	2	195
Markesan, village	193	380	407	787	787	.....	.....	9	134
Manchester	215	524	470	994	994	.....	.....	1	181
Marquette	149	387	372	759	759	.....	.....	9	143
Princeton	207	567	549	1,116	1,116	.....	.....	4	164
Princeton, village	341	670	755	1,425	1,425	.....	.....	11	231
Seneca	106	304	261	565	565	.....	.....	1	119
St. Marie	112	344	242	586	586	.....	.....	2	123
Total	3,401	7,956	7,882	15,838	15,835	3	.....	152	2,800

*Includes total in Green Lake and Waushara counties.

†1 Chinaman.

BERLIN.

Berlin, Green Lake Co., is an incorporated city of 4,638 inhabitants, 4,597 of which are in Green Lake county and 41 in Waushara county; is located on the Fox river and the C., M. & St. P. Ry., 97 miles from Milwaukee and 182 miles from Chicago. Has three passenger trains daily. United States Express. Telegraph and telephone. Freight accommodations good.

The village is supplied with a gas plant, a central heating plant, electric light plant, 2 banks, 3 drug stores, 9 grocery stores, 5 hardware stores, 4 dry goods stores, 1 laundry, bottling works, brewery, canning and pickling establishment, 1 daily and 2 weekly newspapers, water works, whip factory, repair shops, 1 broom and wash-board factory, glove and apron factory, wagon shops, flouring mills, butter tub factory, and factories for the manufacture of mail boxes, gloves, mittens, wagons, leather goods, fur coats, shoes, and a tannery, and a granite quarry which produces

some of the best granite in the world. There are 5 hotels, 2 boarding houses, a public library, 2 large public school buildings, 2 public parks, and well kept streets with plenty of shade trees. Seven physicians and 5 lawyers are located here. The city has one idle factory building.

Coal, shipped from Milwaukee, is the principal fuel. All the water power available is developed. Plenty of adult help can be procured and such raw materials as fruit, vegetables, clay, sand, peat, granite, lime, and iron can be supplied. Any industry that can utilize these materials is best suited for the place.

Nearly all the land of the surrounding country is improved, soil very fertile and free from stone.

DARTFORD.

Dartford, Green Lake Co. is an incorporated village of 527 inhabitants. Is the county seat, located one mile from Green Lake station on the C. & N. W. Ry., 175 miles from Chicago, 90 miles from Milwaukee and 27 miles from Fond du Lac. Has four passenger trains daily. Facilities for receipt and shipment of freight fairly good. American Express.

Coal and wood are used for fuel, coal being procured from Milwaukee and wood from a forest 2 miles north of the village. Such raw materials as vegetables, clay, sand, peat and stone can be supplied in abundance. A 30-horse water power can be developed, and about 50 men, 100 women and 100 young persons can be secured to work in factories.

An electric light plant could be maintained here. The village is already supplied with a bank, 1 drug store, 5 groceries, 1 hardware, 2 dry goods stores, 1 printing office, 1 harness and shoe store, 1 jewelry store, 1 meat market, 1 boat factory, which also manufactures gasoline engines and does repairing, 2 blacksmith shops, 1 wall-paper and paint store, a creamery, a flouring mill, a lumber yard, coal dealer, 6 hotels, 2 boarding houses, 3 physicians, 2 lawyers and a public school employing 6 teachers. The village is a very popular summer resort being located on a beautiful lake 10 miles long and from 2 to 4 miles wide. It has well kept streets, with an abundance of shade trees, ponds and creeks scattered here and there throughout the village.

The land of the surrounding country is excellent for farming purposes, about three-fourths being improved. Very little of it is stony, some swampy, some sandy, but all level.

KINGSTON.

Kingston, Green Lake Co., is an unincorporated village of about 250 inhabitants, eight miles from railroad. Markesan, on the C., M. & St. P. Ry., is the nearest station. Is 88 miles from Milwaukee, 173 miles from Chicago. Has two passenger trains daily at Markesan. U. S. Express.

This village has about 100 horse water power that can be developed. Wood is the principal fuel. Such raw materials as vegetables, fruit, clay, sand, timber, and stone can be furnished. About 125 laborers can be procured. The village has one drug store, 4 groceries, 1 hardware, 3 dry goods stores, 2 farm implement establishments, a school employing 2 teachers, 1 hotel and 1 physician.

Most of the land of the surrounding country is suitable for farming, three-fourths of which is improved. The soil is stony in some places, sandy in others, and some swampy land in others.

MARKESAN.

Markesan, Green Lake Co. An incorporated village of 787 inhabitants, located on the C., M. & St. P. Ry., 88 miles from Milwaukee and 173 miles from Chicago. Has two passenger trains daily. Freight facilities fairly good. U. S. Express.

There is no undeveloped water power at this place, yet there is a good supply of water for household purposes. Such raw materials as fruit and vegetables can be supplied. A glove, mitten, or fur coat factory is best suited for the town, and an electric light plant could very profitably be established here. The village is supplied with one bank, 2 drug stores, 2 groceries, 2 hardware stores, 3 dry goods stores, 1 laundry, 2 furniture stores, 2 agricultural implement stores, 2 hotels, 1 boarding house, 4 blacksmith shops, 2 physicians, 2 lawyers, and a public school employing 7 teachers. A weekly newspaper is published. The place is a good location for a department store.

All the land of the surrounding country is level and suitable for farming purposes, and is well improved. The soil is a clayey loam, free from stone and marshes.



FOREST SCENE IN NORTHERN WISCONSIN.

PRINCETON.

Princeton, Green Lake Co., is an incorporated village of 1,425 inhabitants, located on the C. & N. W. Ry., 184 miles from Chicago and 99 miles from Milwaukee. Has four daily passenger trains. Good facilities for receipt and shipment of freight. American Express.

The village has a fine water power, nearly all of which is developed. Coal and wood are used as fuel, the former being shipped from Milwaukee. Not much raw material of any kind can be supplied. The village desires a glove factory, a hose factory and a laundry. It is already supplied with an electric light plant, a telephone system, 2 banks, 2 drug stores, 4 groceries, 4 hardwares, 8 dry goods stores, implement stores, blacksmith and wagon shops, a brewery, foundry and machine shop, 4 hotels, bottling works, flour and feed mill, overall factory, a weekly newspaper, a high school employing 10 teachers, 4 physicians, and 2 lawyers. The village is a well laid-out place, with fine shady streets, cement sidewalks, and public buildings. The river runs through the village and Green Lake and Lake Puckaway are a few miles distant.

The land of the surrounding country is good, and about three-fourths of it is improved. It is rolling and somewhat sandy.

IOWA COUNTY.

Iowa county is located in the south-western part of the state. The area is 763 square miles. The population in 1905 was 22,971. Over one-third of the population is of foreign birth, the chief nationalities represented being Danes, Norwegians and Germans. The county occupies a high rank in agriculture. The total farm area in 1905 was 443,415 acres, of which 280,597 acres are improved. In 1890 the farm area was 431,560 acres, of which 272,777 acres were improved. The value of the farms and buildings in 1905 was \$15,721,647, as compared with \$9,150,378 in 1890, a gain of \$6,571,269. The surface in the northern, eastern and south-western parts is rough and hilly. The remainder of the county consists of ridge land which is gently rolling. The soil in the northern part along the Wisconsin river is a light and open sandy loam. Covering the larger part of the county the soil is a light form of clayey loam, with numerous irregular tracts of very fertile prairie loam, which increase in size in the western part, covering a large portion of the county. There are no swamps or lakes in the county, but a net-work of small streams furnishes an excellent drainage system. The chief crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	5,623	1,786
Corn	42,387	43,603
Oats	61,347	69,581
Barley	656	3,396
Rye	3,246	5,330
Hay	50,971	63,220

The county possesses a very large and wealthy dairy industry, there being 111 cheese factories and 11 creameries in 1905. In the southern part of the county there are numerous lead and zinc mines. While there is very little unimproved land in the county except that in connection with the improved land, the sale price of such land ranges from \$20 to \$35 per acre. The price of improved land ranges from \$40 to \$100 per acre. Dodgeville is the county seat. The fol-

lowing table shows the population statistics of the different cities, villages and towns in the county for 1905.

IOWA COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Arena	234	716	648	1,364	1,364	.....	.....	13	289
Brigham	232	746	657	1,403	1,403	.....	.....	4	299
Clyde	121	298	266	564	564	.....	.....	7	121
Dodgeville	315	847	711	1,558	1,553	.....	.....	4	321
Dodgeville, city:									
ward 1.....	41	263	272	535	535	.....	.....	.....	.....
ward 2.....	211	336	411	747	746	*1	.....	.....	.....
ward 3.....	318	414	456	870	870	.....	.....	.....	.....
Total, city, 2,152								27	448
Eden	127	329	274	603	603	.....	.....	4	117
Cobb, village	63	140	129	269	269	.....	.....	2	44
Highland	279	737	719	1,456	1,456	.....	.....	6	261
Highland, village	196	448	471	919	919	.....	.....	4	133
Linden	144	713	575	1,288	1,288	.....	.....	4	239
Linden, village	160	316	267	583	582	†1	.....	4	115
Mifflin	267	606	563	1,169	1,168	1	.....	2	234
Rewey, village	80	169	166	335	335	.....	.....	9	63
Mineral Point	261	540	476	1,016	1,016	.....	.....	6	239
Mineral Point, city:									
ward 1.....	203	352	458	810	810	.....	.....	.....	.....
ward 2.....	250	496	527	1,023	1,014	9	.....	.....	.....
ward 3.....	144	292	308	600	594	6	.....	.....	.....
ward 4.....	164	463	366	819	818	*1	.....	.....	.....
Total, city, 3,252								31	767
Moscow	232	651	550	1,201	1,201	.....	.....	11	211
Pulaski	159	482	417	899	899	.....	.....	.....	176
Avoca, village	105	213	198	411	411	.....	.....	13	74
Ridgeway	143	423	355	778	777	1	.....	6	144
Ridgeway, village	87	182	176	358	358	.....	.....	6	76
Waldwick	160	354	329	683	683	.....	.....	6	128
Wyoming	130	356	354	710	710	.....	.....	1	110
Total	4,926	11,872	11,099	22,971	22,951	20	.....	169	4,643

*1 Chinaman.

†1 Japanese.

AVOCA.

Avoca, Iowa Co. Population, 411. An incorporated village on the C. M. & St. P. Ry., in the north-western part of the county, 4½ miles from Prairie du Chien, 50 miles from Madison, 132 miles from Milwaukee and 217 miles from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is supplied with plenty of cheap fuel, has 2 hardware and 3 general merchandise stores, graded school employing 6 teachers, 3 churches, one physician, grist mill, cheese box factory, meat market, blacksmith shops, etc. Muscoda is the nearest banking point.

Steam power is used. Wood and coal are used for fuel. Wood is obtained from adjacent lands. Fruit and vegetables can be furnished for canning. Plenty of clay, sand, timber and stone handy to the village. Help can be secured here.

The surrounding country is good for farming and about 75 per cent of the land suitable for crop raising is improved. About 50 per cent is level and free from stone, a small per cent is swampy and some sandy. Good inducements will be offered for a canning factory.

BARNEVELD.

Barneveld, Iowa Co. Population, 350. An unincorporated village on the C. & N. W. Ry., in Brigham township, 15 miles northeast of Dodgeville, 32 miles from Madison, 114 miles from Milwaukee and 199 miles from Chicago. American Express. Telegraph and telephone. Fair shipping facilities and passenger service.

The village is supplied with a bank, drug store, 2 groceries, 2 hardware and 2 general merchandise stores, 1 hotel, 2 boarding houses, graded school employing 3 teachers, Baptist, Catholic, Congregational, Lutheran and Methodist churches, furniture store, jewelry shop, blacksmith and wagon shop, meat markets, and a feed mill. A weekly newspaper is published. The village needs better hotel accommodations.

A limited amount of help can be secured here. Wood is used for fuel obtained from the adjacent country. This is a fine location for a brick yard and there is plenty of cordwood timber in the vicinity.

This is a good farming section and 50 per cent of the land suitable for crop raising is improved.

COBB.

Cobb, Iowa Co. Population, 269. An incorporated village located on the C. & N. W. Ry., in Eden township, 11 miles west of Dodgeville and 5½ miles from Montfort, the nearest banking point, 58 miles from Madison, 140 miles from Milwaukee and 225 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

The village is supplied with a drug store, 2 hardware stores, 3 general merchandise stores, 2 hotels, 1 boarding house, high school employing 6 teachers, Adventist, Lutheran and Methodist churches, 2 physicians, a creamery, 2 blacksmith and wagon shops, harness shop, furniture store, lumber

yard and tailor shop. The village needs a first-class hotel.

Plenty of wood in the vicinity guarantees cheap fuel. Help can be secured in the village. Fruit and vegetables can be furnished for canning. The natural products are stone, timber, zinc and lead.

About four-fifths of the land surrounding the village, suitable for crop raising, is improved. The country is practically all level and free from stone. Abundant crops of all kinds are produced.

DODGEVILLE.

Dodgeville, Iowa Co. Population, 2,152. An incorporated city located on C. & N. W. Ry., and the Illinois Central Ry., in the center of Iowa county, of which it is the judicial seat. The city is 8 miles northeast of Mineral Point, on the C., M. & St. P. Ry., 47 miles from Madison, 129 miles from Milwaukee and 214 miles from Chicago. American Express. Telephone and telegraph. Good freight facilities and passenger service.

The city was first settled in 1826, incorporated as a city in 1889. It is supplied with water works, electric lights, 3 banks, 2 drug stores, 2 grocery stores, 3 hardware stores, 8 general merchandise stores, 2 clothing stores, excellent public schools employing 20 teachers, Baptist, Catholic, Congregational, Evangelical, Methodist and Presbyterian churches, 4 physicians, 5 lawyers, 2 hotels, 4 boarding houses, an opera house, flour mill 1 laundry, furniture store, canning factory, wagon and carriage factory, creamery, buttermilk factory, blacksmith shops, meat markets, 3 jewelers, 3 milliners, marble shops, etc. Three weekly newspapers are published.

The natural products are clay, sand, stone, timber, zinc and lead. Some help could be secured in the vicinity.

There are a number of zinc and lead mines in the vicinity. Steam power is used for manufacturing and wood and coal are used for fuel.

The city is located in a good farming section and all the land is improved. Grain, live stock, produce and dairy products are shipped.

HOLLENDALE.

Hollendale, Iowa Co. Population, 300. An unincorporated village on the Illinois Central Ry., in Moscow township, 13 miles southeast of Dodgeville, 60 miles from Madison, 149 miles from Milwaukee, 53 miles from Freeport and 227 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities fair. Two passenger trains daily.

The village is supplied with a bank, drug store, 2 hardware stores, 5 general merchandise stores, furniture store, 1 hotel, graded school employing 2 teachers, Catholic and Lutheran churches, a physician, harness shop, blacksmith shop, meat markets, creamery, grist mill, etc. A weekly newspaper is published.

There is a good location here for a pottery. Coal and wood are used for fuel. Wood is obtained from the adjacent country and coal from Freeport or Chicago. A limited amount of help can be secured in the vicinity.

The village is located in a dairying country and the land suitable for crop raising is all improved. Potters clay is the principal natural product.

MIFFLIN.

Mifflin, Iowa Co. Population, 200. A small unincorporated village in the southwestern part of the county, 18 miles from Dodgeville, the county seat, and 3½ miles from Rewey, the nearest railroad station and banking point.

Has telephone connections. 2 general merchandise stores, graded school employing 2 teachers. 2 blacksmith shops, 1 hotel, wagon maker and cheese factory.

There is a small water power here where at one time was a flour mill. Wood is used for fuel, obtained from the adjacent country. Enough fruit and vegetables are produced to supply a canning factory. Stone, sand and zinc ore are the natural products. This is a mining town in the heart of the mining country. The village needs a good hotel to accommodate the miners.

MINERAL POINT.

Mineral Point, Iowa Co. Population, 3,252. An incorporated city located in the southern part of the county on the C., M. & St. P., and M. P. & N. Rys., 8 miles south of Dodgeville, the county seat, 63 miles from Madison, 152 miles from Milwaukee and 206 miles from Chicago. United States Express. Telegraph and telephone. Shipping facilities and passenger service fair.

The city is supplied with an electric light plant, 2 banks, 3 drug stores, 7 groceries, 4 hardware, 4 dry goods and 2 clothing stores, public and denominational schools, Catholic, Episco-

pal and Primitive Methodist churches, 5 hotels, 5 physicians, 7 lawyers, 1 laundry, 3 restaurants, 4 blacksmith shops, a large plant for the manufacture of oxide of zinc and sulphuric acid, a creamery, a brewery and two feed mills. Two weekly newspapers are published.

There is plenty of help to be had in the city and surrounding country. Vegetables of all kinds can be supplied for canning. The natural products are sand, stone, zinc, lead and sulphur. There is a fine opening here for the manufacture of metallic zinc.

The surrounding country is hilly but the land is all improved. The soil contains large deposits of dry bone and black jack, and the shipments comprise live stock, farm produce, beer, zinc and lead.

REWEY.

Rewey, Iowa Co. Population, 335. An incorporated village on the C. & N. W. Ry., in Mifflin township, 22 miles southwest of Dodgeville, 37 miles from Galena, Ill., 73 miles from Madison, 155 miles from Milwaukee and 240 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

Has a bank, drug store, 1 hardware store, 3 general merchandise stores, a high school employing 5 teachers, Methodist, Episcopal and Primitive Methodist churches, one physician, a furniture store, restaurant, cheese factory, blacksmith shop, meat market, lumber yard etc.

Vegetables can be supplied for canning purposes. The natural products are zinc and lead in large quantities.

The surrounding country is good for farming and about 85 per cent. of the land suitable for crop raising is improved.

RIDGEWAY.

Ridgeway, Iowa Co. An incorporated village of 359 inhabitants, located on the C. & N. W. Ry., in Ridgeway township, 10 miles northeast of Dodgeville, the county seat and nearest banking point, 38 miles from Madison, 120 miles from Milwaukee and 205 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

The village is supplied with a drug store, 2 grocery stores, 2 hardware stores, 4 general merchandise stores, 2 hotels, 4 boarding houses, graded school employing 3 teachers.

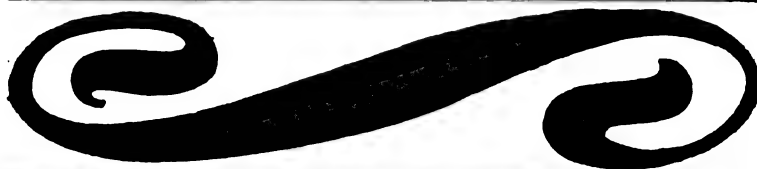
2 churches, one physician, meat market, blacksmith shop, shoe shop and feed mill.

Wood and coal are used for fuel. Wood is obtained in the village and coal at Milwaukee. Vegetables can be furnished for canning purposes and special inducement would be offered for a factory. Plenty of help can be secured.

About one half of the land surrounding the village suitable for crop raising is improved. The land is rough but the soil is fertile and good crops are produced.

IRON COUNTY.

Iron county is located in the northern part of the state on the Michigan-Wisconsin boundary line. It has an area of 786 square miles. The population in 1905 was 6,559. Over one-third of the population is of foreign birth, the chief nationalities represented being Finns, Italians and Canadians. The chief industry of the county is mining. There is as yet very little agriculture. The total farm area in 1905 was but 15,921 acres, or but a little over 3% of the total area of the county. Only 4,619 acres are improved land. The value of these farms in 1905, including improvements, was \$230,240. There was practically no farming prior to 1890. The principal agricultural products are oats and hay of which a large crop is yielded to the acre. The surface of the county is very broken and hilly on account of the Penokee iron range which passes through the northern part and the accumulations of glacial drift which are found in the southeastern portion. The county is traversed by several short and very rapid streams in the northwestern part and is dotted with small lakes in the southeastern portion. The soils in the northern part along Lake Michigan are heavy clays. The major portion of the northern half of the county is a loamy clay of the medium variety and very fertile, excellent both for general farming and dairying. The soils of the southern portion are light clayey loams and are in places quite stony. Some of these sections in the southwestern part are covered with heavy accumulations of sand and gravel, making a soil of comparatively low fertility. The price of unimproved land averages about \$5 per



LOADING IRON ORE ON CARS.

SHAFT HOUSE, IRON MINE, GOGEBIC RANGE.

acre. For improved farm lands the price ranges from \$25 to \$45 per acre. Hurley is the county seat and largest city. The population of the local political divisions for 1905 was as follows:

IRON COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-odiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Anderson	46	161	113	274	274	.....	.....	1	64
Knight	207	637	467	1,144	1,144	.....	.....	1	329
Montreal	300	640	468	1,108	1,108	.....	.....	.....	2,6
Raxon	187	387	276	663	663	.....	.....	3	107
Vaughn	672	1,877	1,493	3,370	3,370	.....	.....	9	763
Total	1,362	3,722	2,827	6,549	6,550	.....	.....	14	1,522

GILE.

Gile, Iron Co., is an unincorporated village of about 450 population, located on the Wisconsin Central and the C. & N. W. railroads, 49 miles from Ashland, 163 miles from Wausau, 230 miles from Green Bay, 387 miles from Chicago and 302 miles from Milwaukee. National and American Express. Passenger and freight facilities good.

The village has some undeveloped water power and plenty of land near the depot suitable for manufacturing or business purposes. Such raw materials as sand, stone, iron and timber can be supplied, and any industry which can utilize these materials is best suited for the place. A paper or box factory is desired. Plenty of laborers can be procured.

The village was formerly a saw-mill town but when the supply of white pine became exhausted, the mills moved away. The inhabitants are now turning their attention to cultivating the soil. There is one grocery and one hardware store, 2 physicians, and 2 boarding houses but no hotel. The village is located near a beautiful lake on a stream of water, and can be made a summer resort.

The land of the surrounding country is excellent for farming purposes, but little of which is improved.

HURLEY.

Hurley, Iron Co., is an unincorporated village of about 2,000 inhabitants, located on the C. & N. W. and the Wisconsin Central railroads, 385 miles from Chicago, 300 miles from Milwaukee, 217 miles from Oshkosh and 39 miles from Ashland. National and American Express. Telegraph and telephone. Has 16 trains daily carrying passengers, and excellent freight facilities.

Plenty of land can be procured here for manufacturing purposes, and a splendid water power can be developed for almost any new industry. Coal is shipped from Ashland, 39 miles away. Such raw materials as small fruit, vegetables, iron, timber and stone can be supplied, and any industry utilizing these can be supported.



FIFTEEN YEARS SHOWS A BARN LIKE THIS.

The village is supplied with an electric light plant, an excellent system of water works, a bank, good schools, 3 hotels, 3 general stores, 5 groceries, 2 hardwares, 3 drug and jewelry stores, 4 physicians, 5 lawyers, 1 laundry, bottling works, 4 meat markets, 4 dress making establishments, 1 foundry, 1 milliner, 3 confectionery establishments, 1 cigar factory, 2 furniture stores, 1 livery stable, 2 newspapers, 2 wall paper and paint shops, 1 lumber mill, 2 barbers, 2 bakeries, 2 dentists, and 1 photographer.

As yet the surrounding country is largely devoted to the mining of iron.

MONTREAL.

Montreal, Iron Co., is an unincorporated village of about 500 inhabitants, located on the C. & N. W. and the Wisconsin Central railroads, 5 miles from Hurley, 300 miles from Chicago, 305 miles from Milwaukee and 222 miles from Oshkosh. Telegraph and telephone. Good freight and passenger accommodations. National and United States Express.

Plenty of land can be had for manufacturing or business purposes. No raw material can be supplied unless it is shipped in. Coal is shipped from Ashland. The village has a good supply of water for household purposes, but none for manufacturing purposes. There is 1 drug store, 4 groceries, a hardware store, a blacksmith shop and 2 physicians located here.

About one-half of the surrounding country is suitable for farming purposes, and but very little of it is improved.

SAXON.

Saxon, Iron Co., is an unincorporated village of about 400 people, located on the C. & N. W. and the D., S. S. & A. railroads, 397 miles from Chicago, 312 miles from Milwaukee and 27 miles from Ashland. Has splendid freight and passenger facilities. Telegraph and telephone. United States and American Express.

Wood is the principal fuel procured from the surrounding forests. Such raw materials as small fruit, vegetables, clay, sand, stone, timber and iron can be supplied and any industry that can utilize these materials is best suited for the place. A canning factory, foundry, broom handle establishment and a furniture factory would probably do well here. The village is supplied with an electric light plant, 2 general stores, a saw mill, a creamery, 2 hotels, and 2 boarding houses. Lake Superior is about $4\frac{1}{2}$ miles distant.

The soil of the surrounding country is good, but little stony, marshy or sandy. Much of it is yet unimproved and can be procured at a very reasonable price.

JACKSON COUNTY.

Jackson county is located in the west central part of the state. The area is 978 square miles. The population in 1905 was 17,579, a gain of 113 over the census of 1900. About one-fifth of the population is foreign born, of which number, Norwegians are by far the most numerous. The farm acreage in 1905 was

353,368 acres, of which amount 157,713 acres were improved. The farm acreage in 1890 was 284,384 acres, with 119,412 acres improved. The value of the farms and improvements in 1905 was \$8,117,445 as compared with \$3,207,430 in 1890, a gain of \$4,910,015, or over 150% in 15 years. With the exception of occasional ridges and isolated bluffs the surface away from the Black river is comparatively level or gently sloping. The soil covering the larger portion of the county is sandy, light and porous, containing a variable amount of clay grading into loams. The central part of the county, the valley of the Black river and its tributaries, is quite sandy. Over a large part of the area sandy sub-soils or the sand rock is within a few inches of the surface. Clayey loam occurs in the low marshy places. Humus soils, composed mainly of muck and peat, occur in scattered areas through the county, mainly in the southern and eastern part. The forest trees of this county were mainly pine which has long since been cut away. The principal crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	10,060	5,730
Corn	13,222	14,950
Oats	28,713	47,423
Barley	494	2,611
Rye	3,665	5,020
Hay	30,347	31,900

In 1905 there were 11 creameries in the county. There are nearly 300 acres devoted to the culture of cranberries. It is the second largest berry-growing county in the state. The soil, owing to its diversified nature, varies greatly in price. For unimproved land the prices range from \$5 to \$50 per acre. The price of improved land ranges from \$25 to \$60 per acre. Black River Falls is the county seat. The population of the cities, villages and towns of the county for 1905 was as follows:

JACKSON COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Albion	320	981	795	1,776	1,776	.....	.....	10	326
Alma	217	497	423	920	920	.....	.....	3	161
Alma Centre, village ..	103	202	212	414	414	.....	.....	10	73
Merrillan, village	173	311	338	649	649	.....	.....	22	112
Bear Bluff	33	92	63	155	155	.....	.....	3	27
Black River Falls:									
ward 1	112	201	253	454	454	.....	.....	.....	.....
ward 2	84	174	28	382	382	.....	.....	.....	.....
ward 3	68	148	161	309	309	1	.....	.....	.....
ward 4	174	338	413	801	798	3	.....	.....	.....
Total, city, 1,946								37	306
Brockway	160	373	327	706	655	.....	50	18	86
City Point	67	171	147	318	318	.....	.....	1	57
Cleveland	178	478	423	906	906	.....	.....	6	153
Curran	131	251	207	658	658	.....	.....	5	123
Franklin	130	394	330	724	724	.....	.....	3	128
Garden Valley	150	419	354	773	773	.....	.....	5	164
Garfield	147	442	337	779	779	.....	.....	2	137
Hixton	194	477	430	907	907	.....	.....	16	174
Irving	195	510	436	946	946	.....	.....	10	210
Knapp	60	156	152	308	308	.....	.....	7	31
Manchester	139	359	323	682	621	.....	72	18	89
Melrose	319	834	767	1,601	1,601	.....	.....	21	294
Millston	80	198	176	374	374	.....	.....	4	45
Northfield	196	558	481	1,039	1,039	.....	.....	6	192
Springfield	198	544	445	989	989	.....	.....	4	257
Total	3,628	9,263	8,316	17,579	17,453	4	122	211	3,121

ALMA CENTER.

Alma Center, Jackson Co., is an incorporated village of 414 inhabitants, situated on the Green Bay & Western Ry., 12 miles from Green Bay and 87 miles from La Crosse, American Express, Telegraph and telephone. Four daily passenger trains. Fairly good freight accommodations.

Coal and wood are the fuels used, the former being shipped from either Green Bay, La Crosse or Milwaukee, the latter being procured from the surrounding country. Such raw materials as fruit, vegetables, clay, sand, stone, peat and some timber can be supplied, and any industries utilizing these are desirous. A cold storage and tobacco plant are also desired here. Plenty of help can be procured. Good well water is supplied for household use. The village is supplied with a bank, 1 drug store, 2 general stores, 2 hardware stores, a newspaper, 2 physicians, 2 hotels, a harness shop, a dentist, an elevator, 1 meat market, 2 creameries, a barber shop, 1 jewelry store, blacksmith shop, a

photographer, and a public school employing 5 teachers. A good bonus would be offered for a canning factory.

All the land suitable for farming purposes in surrounding the village is improved. The soil is fertile and well adapted to general farming and stock raising.

BLACK RIVER FALLS.

Black River Falls is the county seat of Jackson county, has a population of 1,946. Located on the C. St. P. M. & O. Ry., 210 miles from Milwaukee, 257 miles from Chicago and 144 miles from St. Paul. Has first class facilities for receipt and shipment of freight. Has 4 passenger trains daily. American Express. Telephone and telegraph.

The city is supplied with an electric light plant, 2 banks, 4 physicians, 5 lawyers, a splendid public school system, 2 drug stores, 6 groceries, 2 hardware, 2 dry goods stores, 1 laundry, 3 good hotels, 6 or 7 boarding houses, 2 weekly newspapers, a feed mill, flouring mills, 2 elevators, a creamery, sash and door factory and planing mill, a brewery, wagon shops and iron works. The city has a splendid park stretching along the river and can be made a summer resort. A 20,000-horse water power can be developed here on Black river near the city. Wood procured from the surrounding country, is the principal fuel. Fruit and vegetables can be procured for a canning and preserving factory. In the vicinity are almost inexhaustible beds of kaolin and kaolin shale. From the latter is made the finest brick to be procured on the market anywhere. There is no doubt but what capital could be very profitably invested in promoting the brick industry at this place.

The soil of the surrounding country is good for general farming, portions of it being sandy, but all fairly level and free from stone. There are many fine trout streams in this section of the state.

HIXTON.

Hixton, Jackson Co., is an unincorporated village of about 200 people, located on the Green Bay & Western Ry., 158 miles from Green Bay and 81 miles from La Crosse. Has fairly good freight and passenger facilities. Telephone and telegraph. American Express.

The village is supplied with 1 drug store, 3 groceries, 2 hardwares, 2 dry goods stores, 1 harness and shoe store, 1 furniture and undertaking establishment, a creamery, 2 flouring mills, a graded school, 1 physician and 2 hotels. Coal shipped from Green Bay and wood procured from the farmers near by are the fuels. Such raw materials as fruit, vegetables, clay, sand, stone

and oak timber can be procured in the immediate vicinity. A brick yard and a glass factory are desired at this place. Help would have to be secured from elsewhere. A blacksmith and repair shop is desired and would do well.

The surrounding country is well improved, the soil is a clayey loam with clayey subsoil, but little rough or sandy, and free from swamps. Dairying and stock raising are coming to the front in this vicinity.

MERRILLAN.

Merrillan, Jackson Co., is an incorporated village of 649 inhabitants, situated on the G. B. & W. Ry., 148 miles from Green Bay and 91 miles from La Crosse, and on the C., S. P., M. & O. Ry., 132 miles from St. Paul, 270 miles from Chicago and 222 miles from Milwaukee. Freight and passenger facilities first class. Telegraph and telephone. American Express.

The village has an electric light plant, 1 bank, 1 drug store, 5 groceries, 1 hardware, 3 dry goods stores, 1 laundry, 1 blacksmith shop, 1 millinery store, 1 furniture store, 1 hotel, 1 restaurant, 3 boarding houses, a high school employing 6 teachers, 1 physician, and 2 lawyers. Work has begun on a dam 6 miles southeast of the village which will cost \$1,000,000 and will furnish all the electric power needed for any purpose in this or other villages within a reasonable distance. This dam will be 5 miles long and 3 miles wide and will make a suitable summer resort. Such raw materials as sand, clay, vegetables and fruit are available. A canning or pickling factory is best adapted for the place. Plenty of help can be secured here.

The surrounding country is excellent for farming purposes, and is nearly all improved within a radius of 6 or 8 miles. The soil is excellent and dairying is becoming the leading industry.

JEFFERSON COUNTY.

Jefferson county is located in the southeastern part of the state. The area is 548 square miles. The population in 1905 was 34,293. Nearly one-fifth of the population is foreign born of which number Germans are by far the most numerous. It is an excellent agricultural county. The farm area in 1905 was 321,903 acres, of which 234,960 acres was improved land. The value of these farms in 1905 including improvements was \$21,246,256 as compared with \$16,534,724 in 1890. The topography is of the irregular rolling type characteristic of glacial deposits. The

soils over the larger part of the county are clayey loams of the lighter and medium varieties. Extending from the northwestern part of the county down to within a few miles of the southern boundary is a wide belt of loamy clay, very fertile and one of the best soils in the state. Numerous lakes and irregular areas of humus soils composed mainly of muck and peat are found in various parts of the county. The chief crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	16,740	3,568
Oats	25,629	43,179
Barley	21,463	13,471
Rye	4,696	4,610
Corn	30,511	42,018
Hay	59,845	55,662

This county in recent years has made great strides in the dairy industry and is becoming famous for the production of dairy cows and heifers. The sale of such cows and heifers last year netted one-half a million dollars. In 1905 there were 4 cheese factories, 16 creameries and 19 skimming stations in the county. There is very little unimproved land which can be made tillable that is not owned in connection with improved land, the unimproved and improved land selling together. The only unimproved land consists of marshes or wood land, and ranges in price all the way from \$15 to \$100 per acre, depending upon quality of soil and amount of timber. The heavy clay and loamy clay farms range in price from \$80 to \$125 per acre, and there are some sales recorded at as high as \$150 per acre. Jefferson is the county seat. The population of the cities, towns and villages of the county for 1905 was as follows:

FORT ATKINSON.

Ft. Atkinson, Jefferson Co. Population, 3,300. An incorporated city located on Rock river, and on the C. & N. W. Ry., 5½ miles southwest of Jefferson, the county seat, 19 miles from Janesville, 41 miles from Madison, 50 miles from Milwaukee and 110 miles from Chicago. American Express. Telephone and telegraph. Good freight facilities and passenger service.

The city has macadamized streets, 12 miles of cement sidewalk, 2 public parks shaded with large oaks, city hall, is lighted by electricity, has a good system of water works, 2 banks, 3 drug

JEFFERSON COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Aztalan	215	531	508	1,039	1,037	2	.....	.....	216
Cold Spring	111	308	253	561	557	4	.....	3	129
Concord	265	593	566	1,159	1,159	.....	.....	8	237
Farmington	303	784	715	1,499	1,499	.....	.....	1	247
Johnson Creek, vil.	122	258	236	494	492	2	.....	5	103
Fort Atkinson, city:									
ward 1.....	227	355	469	854	845	9	.....	.....	130
ward 2.....	209	366	414	780	779	1	.....	.....	161
ward 3.....	175	325	366	691	691	.....	.....	.....	123
ward 4.....	261	478	497	975	975	.....	.....	.....	195
Total, city.....3,300								49	.....
Hebron	209	475	455	930	931	.....	.....	9	181
Ixonia	282	669	603	1,272	1,272	.....	.....	7	271
Jefferson	336	929	829	1,768	1,766	2	.....	4	230
Jefferson, city:									
ward 1.....	138	300	302	602	602	.....	.....	.....	107
ward 2.....	176	375	381	756	756	.....	.....	.....	149
ward 3.....	194	343	371	714	714	.....	.....	.....	143
ward 4.....	121	245	255	500	500	.....	.....	.....	88
Total, city.....2,572								16	.....
Koshkonong	301	778	686	1,444	1,444	.....	.....	6	277
Lake Mills	254	636	557	1,193	1,193	.....	.....	4	219
Lake Mills, village.....	411	746	856	1,602	1,596	6	.....	20	220
Millford	259	625	589	1,214	1,214	.....	.....	8	214
Oakland	250	674	573	1,247	1,247	.....	.....	4	246
Palmira	155	363	348	716	716	.....	.....	9	161
Palmira, village	200	342	368	710	709	1	.....	24	120
Sullivan	286	642	608	1,250	1,250	.....	.....	21	240
Sumner	109	250	205	455	455	.....	.....	4	116
Waterloo	171	476	409	885	885	.....	.....	2	175
Waterloo, village	286	511	595	1,106	1,106	.....	.....	15	179
Watertown	318	780	697	1,477	1,477	.....	.....	7	286
Watertown, city:									
ward 1.....	536	1,220	1,246	2,466	2,466	.....	.....	.....	469
ward 2.....	377	671	807	1,478	1,474	*3	1	.....	262
ward 3.....	243	460	506	966	966	.....	.....	.....	186
ward 4.....	150	241	287	528	528	.....	.....	.....	91
ward 7.....	216	499	463	962	962	.....	.....	.....	164
Total, city.....8,622								35	.....
Total	7,866	17,293	17,000	34,293	34,262	30	1	261	6,369

*Includes total in Dodge and Jefferson counties.

*1 Chinaman.

stores, 5 grocery, 3 hardware, 4 dry goods and 3 general merchandise stores, 2 hotels, 1 boarding house, 6 physicians, 4 lawyers, 2 high and 3 public schools, 21 teachers employed, public library, Catholic, Congregational, German, Methodist, Methodist Episcopal, Lutheran and Evangelical Lutheran churches. Has a laundry, bakery, 2 harness shops, 3 jewelry stores, 2 photographers, 6 blacksmith shops, 2 lumber yards, 3 grain elevators, creamery and cold storage, canning factory, a brick manufacturing company, wagon and carriage factory, broom factory, cutlery factory, brewery and cigar factories. Three weekly newspapers are published.

A first-class hotel is needed. Any kind of manufacturing industries would do well.

Steam power is used here. Coal is used for fuel, obtained at Milwaukee or Chicago. Clay, sand, stone, peat and timber are the natural products. Help can be secured in the city.

The city is located in one of the best farming sections in the state. The land is either under cultivation or covered with fine groves of timber. The soil is a rich clayey loam.

JEFFERSON.

Jefferson, Jefferson Co. Population, 2,572. A city in the south central part of Jefferson county, of which it is the county seat, on the C. & N. W. Ry., 28 miles from Janesville, 35 miles from Madison, 58 miles from Milwaukee and 119 miles from Chicago. American Express. Telephone and telegraph. Good shipping facilities and passenger service.

Jefferson is beautifully situated on the banks of the Rock river and is a flourishing industrial center. Owns its electric light plant and water works, has fine streets and walks, good private and public buildings and beautiful residences.

Is supplied with a complete system of water works, is lighted by electricity, has 2 banks, 2 drug stores, 4 groceries, 3 merchandise stores, 2 jewelry stores, 4 hotels, 2 boarding houses, high and public schools employing 21 teachers, 5 churches, 2 parochial schools, 5 physicians, 2 lawyers, a laundry and 3 meat markets. In the manufacturing industries, it has two shoe factories, a furniture factory, two breweries, a malt house, a woolen mill, sash and door factory, packing house, several cigar factories, 2 tanneries, 2 brick yards, and 2 creameries. Two English and one German newspaper are published. Has no gas plant or electric railway.

Steam power is used here. Coal is used for fuel, obtained from Chicago and Milwaukee. All kinds of fruit and vegetables can be furnished for canning. Sand and brick clay are the natural products. There is plenty of help to be had in the city and adjacent country. There are no idle factories in the city.

The city is surrounded by as good a farming country as there is in Wisconsin and the land is all improved.

A good location for any manufacturing industries not already represented here.

JOHNSON'S CREEK.

Johnson's Creek, Jefferson Co. Population, 494. An incorporated village located in the north central part of the county, on the C. & N. W. Ry., $5\frac{1}{2}$ miles north of Jefferson, the county seat, 30 miles from Janesville, 34 miles from Madison, 52 miles from Milwaukee and 137 miles from Chicago. American Express. Telegraph and telephone. Good passenger service and shipping facilities.

The village has a bank, 2 drug stores, 2 hardware stores, 2 general merchandise stores, 2 hotels, graded school employing 4 teachers, Methodist and Lutheran churches, 2 physicians, 2 blacksmith shops, 1 wagon shop, a feed mill and lumber yard.

Steam power would have to be used here. Coal is used for fuel, obtained at Fond du Lac and Milwaukee. The natural products are sand and clay used in the manufacture of cream colored bricks. Good location for a brick yard. A limited amount of help can be secured.

The village is surrounded by a fine farming country and all of the land is improved.

LAKE MILLS.

Lake Mills, Jefferson Co. Population, 1,602. An incorporated village on the C. & N. W. Ry., in the western part of the county, 9 miles from Jefferson, the county seat, 26 miles from Madison, 56 miles from Milwaukee and 141 miles from Chicago. American Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village has electric lights, 2 banks, 2 drug stores, 4 groceries, 2 hardware and 4 dry goods stores, 1 laundry, 2 hotels, 3 physicians, 2 lawyers, good public schools employing 9 teachers, churches of the leading religious denominations, a creamery and package manufactory. A weekly newspaper is published.

Coal for fuel is shipped from Milwaukee and Chicago. Such raw materials as fruit and vegetables, can be furnished for canning. The natural products are clay, sand and peat. There are large quantities of peat in the vicinity making this a good location for a plant manufacturing this product into fuel. Also a good lo-

cation for a brick yard. Plenty of help can be secured in the village.

The surrounding country is all level and free from stone and all improved. The village is a summer resort of considerable importance. Situated on Rock Lake, a very picturesque body of water, 3 miles long and 2 miles wide, with many fine cottages. The village has macadamized streets, cement walks, shade trees, a fine public park and a \$20,000 free public library.

PALMYRA.

Palmyra, Jefferson Co. Population, 710. An incorporated village in the southeastern part of the county, on the C., M. & St. P. Ry., 41 miles from Janesville, 54 miles from Madison, 49 miles from Milwaukee and 127 miles from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and fair passenger service.

The village is supplied with a gas plant, a bank, drug store, 5 grocery stores, 2 hardware and 3 dry goods stores, clothing store, 3 millinery stores, 2 jewelry stores, furniture store, 2 hotels, 4 physicians, 2 lawyers, high and graded public schools employing 7 teachers, good churches, meat market, 2 lumber yards, 2 flour mills, 3 blacksmith shops, creamery, repair shop and paint shop. A weekly newspaper is published. Palmyra Springs Sanitarium is located near the village on the margin of Mineral Springs lake and commands a fine view of the lake and surrounding landscape.

There is a small water power here. Wood and coal are used for fuel; wood is obtained from the surrounding country and coal from Milwaukee. Such raw materials as fruit and vegetables can be furnished for canning. Clay, sand, stone and peat are the natural products. All the help needed can be secured in the vicinity.

The surrounding country is good for agricultural purposes and the land is nearly all improved.

Palmyra is a popular summer resort, and a very beautiful village, surrounded by picturesque scenery, is near a pretty lake and wonderful mineral springs. The village needs a first-class hotel and boarding houses.

This is a good location for a canning factory and a condensed milk factory.

ROME.

Rome, Jefferson Co. Population, 300. An unincorporated village on the Rock river, $2\frac{1}{2}$ miles from Sullivan, the nearest railway station, 12 miles east of Jefferson, the county seat, and 8 miles from Palmyra, the nearest banking point. Has telephone connections.

The village is supplied with 2 general merchandise stores, a shoe store, 2 hotels, graded public school employing 2 teachers, good churches, 1 physician, a meat market, 2 blacksmith shops, barber shop, creamery, saw mill and flour mill. The saw and flour mills are run by water power, only a small per cent of which is utilized.

Wood is used for fuel, obtained from the adjacent country. Fruit, vegetables and fish can be supplied for canning. There is a good opening here for a canning factory. Clay, sand, sone; peat and timber are the natural products. Help is plenty in the vicinity.

The village is surrounded by a first-class farming country, and about 75 per cent of the land, suitable for crop raising, is improved. Rome is located on the shore of a lake covering about three sections of land and could be made a fine summer resort.

WATERLOO.

Waterloo, Jefferson Co. Population, 1,106. An incorporated village in the extreme northwestern part of the county, on the Watertown branch of the C., M. & St. P. Ry., 13 miles from Watertown, 23 miles from Madison, 68 miles from Milwaukee and 143 miles from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is supplied with electric lights, a bank, 2 drug stores, 2 hardware stores, 4 general merchandise stores, 2 grocery stores, 2 good hotels, 2 boarding houses, an excellent high and graded school system employing 12 teachers, Catholic, Episcopal, Lutheran and Methodist churches, a Mutual Fire Insurance company, 2 grain elevators, 2 creameries, 2 flouring mills, malt house, canning factory, machine shop, cold storage, 4 ice companies and two weekly newspapers.

There is a small water power here, not estimated. Clay, peat and timber are the natural products. Coal is used for fuel, obtained at Milwaukee. Help can be secured here. A shoe factory would be best suited to the needs of the village.

The village is surrounded by a good farming country, good soil and level and free from stone. Dairying is the principal occupation of the people.

JUNEAU COUNTY.

Juneau county is located in the west central part of the state. The area is 790 square miles. The population in 1905 was 20,759, a gain of 130 over the census of 1900. About one-sixth of the population is foreign born, Germans being the most numerous, but there are also many Norwegians and Danes. The farm area of the county is 320,916 acres, of which 138,925 acres are improved. The farm area in 1890 was 265,974 acres of which 112,673 acres were improved. The value of these farm lands, including improvements in 1905 was \$7,398,920 as compared with \$3,630,805 in 1890, or a gain of \$3,768,115, or over 100% in 15 years. The surface of the county is gently sloping but comparatively level except in the southern part. In parts it is dotted with mounds of sandstone, some of which are mere swells, while others are rugged pinacles or peaks rising abruptly to a considerable height. The county contains extensive tracts of marsh land, especially in the northeastern corner where the soils are of a humus character consisting mainly of muck and peat. In the eastern part along the Wisconsin river and its tributaries the soils are mainly sandy. Those in the southern and southwestern portions are mainly sandy loams. Small areas of clayey loams occur in the southwestern section of the county. The forest growth of this county was mainly pine, which has practically all been cut. The principal crops and their acreage in 1905 and 1890 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	21,048	27,692
Rye	5,865	6,916
Buckwheat	6,834	4,439
Corn	11,170	14,523
Hay	26,471	33,757
Potatoes	3,087	7,086

There were 6 cheese factories and 9 creameries in the county in 1905. The northern part of the county is largely unimproved land ranging in price from \$4 to \$20 per acre. A large part of this land can never be made very productive. The range of prices for improved farm land is from \$30 to \$60. Mauston is the county seat. The population of the different political divisions for 1905 was as follows:

JUNEAU COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Armenia	180	429	408	837	833	7	.....	10	138
Clearfield	106	260	238	498	498	.....	.....	10	73
Cutler	72	192	189	381	381	.....	.....	8	57
Elroy, city:									
ward 1.....	203	439	461	900	899	1	.....	15	178
ward 2.....	216	582	529	1,111	1,111	.....	.....	17	312
Total, city, 2,011									
Finley	80	75	69	144	141	.....	.....	.....	18
Fountain	187	550	468	1,018	1,018	.....	.....	11	192
Germantown	104	334	289	623	623	.....	.....	3	95
Kildare	103	293	243	536	536	.....	.....	3	98
Lyndon Station, vill....	64	161	127	288	288	.....	.....	5	34
Kingston	67	137	140	277	273	4	.....	6	44
Lemonweir	233	570	489	1,069	1,035	.....	24	10	153
Lindina	217	542	477	1,019	1,019	.....	.....	12	211
Lisbon	125	320	293	613	613	.....	.....	5	112
Lyndon	98	250	228	478	478	.....	.....	4	100
Marion	75	239	197	436	436	.....	.....	5	57
Manston, city:									
ward 1.....	280	517	573	1,090	1,069	1	.....	23	157
ward 2.....	190	357	410	767	767	.....	.....	15	133
Total, city, 1,857									
Necedah	133	360	302	662	662	.....	.....	20	223
Necedah, village	271	542	574	1,116	1,116	.....	.....	30	328
New Lisbon, city:									
ward 1.....	144	283	279	562	562	.....	.....	22	92
ward 2.....	128	262	271	533	533	.....	.....	19	71
Total, city, 1,065									
Orange	119	301	272	573	573	.....	.....	4	95
Camp Douglas, village	105	217	218	435	435	.....	.....	5	86
Plymouth	183	472	394	866	866	.....	.....	6	188
Seven Mile Creek.....	142	429	377	806	806	.....	.....	5	198
Summit	206	494	482	976	976	.....	.....	5	200
Wonewoc	300	753	715	1,468	1,463	.....	.....	20	284
Wonewoc, village	195	340	347	687	686	1	.....	28	111
Total	4,476	10,700	10,059	20,759	20,721	14	24	316	3,880

CAMP DOUGLAS.

Camp Douglas, Juneau Co. Population, 435. An incorporated village located at the junction of the C., M. & St. P. Ry., and the C., St. P. M. & O. Ry., in Orange township, 56 miles from La Crosse, 95 miles from Eau Claire, 88 miles from Madison, 142 miles from Milwaukee and 227 miles from Chicago. American and United States Express. Telegraph and telephone. Shipping facilities and passenger service of the very best.

The village is supplied with a bank, drug store, 4 groceries, 2 hardware and 3 dry goods stores, shoe store, 2 hotels, 2 physicians, graded schools employing 4 teachers, good churches, harness shop, jewelry store, blacksmith shop, and meat markets.

Wood and coal are the fuels used and wood is plenty in the vicinity. If a canning factory should locate here it could be supplied with fruit and vegetables. There is a large amount of

clay, sand, stone and some peat and timber. There is very little help to be secured in the village.

This is a fine location for a pickle salting station or the manufacturing of sand bricks.

There is some good farming country surrounding the village and 75 per cent of the best land is improved. North of the village the land is level and sandy; south hills and valleys with a clayey and black loam soil.

ELROY.

Elroy, Juneau Co. Population, 2,011. An incorporated city in the southwestern part of the county on the C. & N. W., and the C., St. P., M. & O. Rys., 58 miles from La Crosse, 76 miles from Madison, 158 miles from Milwaukee and 213 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service good.

The city is supplied with municipal water and electric light plant, a good sewerage system, 2 banks, 2 drug stores, 3 groceries, 2 hardware and 5 general merchandise stores, 3 hotels, 3 boarding houses, 5 physicians, 3 lawyers, excellent school system employing 16 teachers, numerous churches, 4 agricultural implement dealers, 2 elevators, 3 coal and wood dealers, blacksmith shops, meat markets, and 2 weekly newspapers. The city is in need of a first class hotel.

Steam power is used here for manufacturing purposes, and wood and coal are used for fuel. Wood is plentiful in the vicinity. Fruit and vegetables can be supplied for canning. This is a good location for a canning factory. The city can be supplied with clay, sand, stone, peat and hardwood timber. There is a good opening here for a small factory using hardwood timber products. An abundance of help can be secured in the city.

The surrounding country is hilly but contains much good farming land. About 75 per cent of the land suitable for crop raising is improved.

HUSTLER.

Hustler, Juneau Co. Population, 150. An unincorporated village located on the C., St. P., M. & O. Ry., in Fountain township, 85 miles from Madison, 167 miles from Milwaukee and 225 miles from Chicago. American Express. Telegraph and telephone. Good railway facilities.

Has 2 hardware and 3 general merchandise stores, hotel and boarding house, a school employing 2 teachers, a physician, a creamery and a blacksmith shop. Fuel is cheap and help plenty. There is much good farm land in the vicinity and all the land suitable for crop raising is improved. This is a prosper-

cus little village and would be a good location for some small industry.

LYNDON.

Lyndon, Juneau Co. A small village of about 300 inhabitants in Kildare township, on the C., M. & St. P. Ry., 10 miles southeast of Mauston, 26 miles from Portage, 63 miles from Madison, 119 miles from Milwaukee and 204 miles from Chicago. United States Express. Telegraph and telephone. Good freight facilities and passenger service.

Is supplied with a drug store, hardware store, 3 general merchandise stores, 2 hotels, a boarding house, a physician, a public school, blacksmith shop, wagon shop and a bakery.

Plenty of land here for business or manufacturing purposes. Steam power would have to be used. Wood is used for fuel obtained from the surrounding country. Vegetables are the only raw materials. A limited amount of help can be secured here.

The surrounding country is good for farming and about 75 per cent. of the land suitable for crop raising is improved. The soil is a sandy loam and produces abundant crops of potatoes.

MAUSTON.

Mauston, Juneau Co. Population, 1,867. An incorporated city on the C., M. and St. P. Ry., in the south central part of the county, of which it is the county seat. 73 miles from Madison, 129 miles from Milwaukee and 214 miles from Chicago. United States Express. Telegraph and telephone. Good passenger service and shipping facilities.

The city is supplied with electric lights, has 2 banks, 3 drug stores, 3 hardware stores, 6 general merchandise stores, 1 laundry, 2 hotels, 3 boarding houses, 4 physicians, 6 ing mill, elevator, wagon factory, woolen mill, 3 harness shops, 2 furniture stores, 2 jewelry shops, blacksmith shops, meat markets, pickle factory, cooper shop etc. Two weekly newspapers are published.

Coal and wood are used for fuel. There is plenty of wood near the city. Such raw materials as fruit and vegetables could be furnished for canning. Sand, stone and timber are the natural products. A limited amount of help can be secured in the city. There is a good opening here for a starch or canning factory.

The surrounding country is nearly all level and free from stone. The land is about 7-10 sandy and swampy, and about 2-3 of the land suitable for crop raising is improved.

NECEDAH.

Necedah, Juneau Co. Population, 1,116. An incorporated village in the north-central part of the county, on the C., M. & St. P., and the C. N. W. Rys., 19 miles north of Mauston, the county seat, 37 miles from Grand Rapids, 92 miles from Madison, 148 miles from Milwaukee and 233 miles from Chicago. American and United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is supplied with electric lights, a bank, 2 drug stores, 3 grocery stores, 5 general merchandise stores, 2 hardware stores, 1 furniture store, 3 hotels, a boarding house, 2 physicians, 1 lawyer, good public schools employing 9 teachers, churches of the leading religious denominations, a flour mill, 6 warehouses, meat markets, blacksmith shops, etc.

The village will offer valuable inducements for the establishment of a furniture factory. Wood is used for fuel being obtained from the adjacent country at very reasonable prices. A canning factory can be supplied with such raw materials as fruit and vegetables. The natural products are clay, sand, peat and timber. Plenty of help can be secured here.

There is some good farming land in the surrounding country and only about 1-2 of the land suitable for crop raising is improved. The country is generally level with a rich black muck soil and the higher portions have a sandy loam soil. About 20 per cent. of the land is marshy but is being drained. The main ditches are all completed and when the lateral ditches are completed this will be a fine farming country.

The village is the market and shipping point for a large section of country and is recognized as one of the important potato shipping points in the state.

NEW LISBON.

New Lisbon, Juneau Co. Population, 1,096. An incorporated city located on the La Crosse division and the Wisconsin Valley division of the C., M. & St. P. Ry., and on the Lemonweir river, in Lisbon township, 7 miles northwest of Mauston, 62 miles from La Crosse, 80 miles from Madison, 136 miles from Milwaukee and 221 miles from Chicago. United States Express. Telegraph and telephone. First class shipping facilities. Eight passenger trains daily.

The village has a bank, drug store, 2 grocery stores, 2 hardware and 4 general merchandise stores, 1 hotel, 5 boarding houses, 2 physicians, 3 lawyers, a \$25,000 high school building, 11 teachers employed. Methodist Episcopal, Baptist, Congregational, Catholic and German Lutheran churches, 2 meat markets, 1 furniture and undertaking establishment, harness shop, photo gallery, a brewery, flour mill, 2 blacksmith and wagon

shops, creamery, 2 wood and coal yards, and 2 weekly newspapers.

Wood and coal are the fuels used, the former obtained at home and the latter shipped in. Such raw materials as fruit and vegetables can be supplied for canning and the natural products are clay, sand, stone and some timber. Plenty of help can be secured in the village and vicinity.

A \$10,000 canning factory failed here some years ago caused by poor management and dissatisfaction of the stock holders. The property can be bought very cheap. Good location for a pickle salting station, tobacco warehouse, bakery, cigar factory or canning factory.

There is some good farming land in the surrounding country and about 75 per cent. of it is improved. One-half of the country is sandy. The village needs a first-class hotel and a good \$1.00 a day house.

UNION CENTER.

Union Center, Juneau Co. Population, 300. An unincorporated village located on the C. & N. W. Ry., in Wonewoc township, 14 miles southwest of Mauston, the county seat, and 3 miles northwest of Wonewoc, the nearest banking point, 70 miles from Madison, 152 miles from Milwaukee and 208 miles from Chicago. American Express. Telegraph and telephone. Good shipping facilities and passenger service. The Hillsboro & Northeastern Ry. connects this village with Hillsboro, Vernon county, 5 miles west.

The village has a drug store, 2 general merchandise stores, hardware store, hotel, boarding house graded school employing 2 teachers, a physician, Catholic and Methodist churches, cheese factory, blacksmith shop, lumber yard and livery stable.

Wood is used for fuel obtained from timber in the vicinity. Fruit and vegetables can be furnished for canning and the village can be supplied with clay, stone and timber. Plenty of help can be obtained in the village and surrounding country.

About 2-3 of the land surrounding the village, suitable for crop raising, is improved.

The village is in need of better hotel accommodations, and a general store.

WONEWOC.

Wonewoc, Juneau Co. Population 67. An incorporated village on the C. & N. W. Ry., located in the southwestern part of the county in Wonewoc township, 65 miles from La Crosse, 67 miles from Madison, 149 miles from Milwaukee and 206 miles from Chicago. American Express. Telegraph and telephone. Good passenger and freight facilities.

The village is supplied with 2 banks, 2 drug stores, 2 hardware stores, 5 general merchandise stores, 1 millinery store and a wholesale merchandise store, 2 good hotels,

high school employing 8 teachers, churches of the leading religious denominations, 3 physicians, flour mill, saw mill and a weekly newspaper. Has paved streets, brick business blocks, good public buildings and residences. Good location for boot and shoe factory and canning factory.

Wood and coal are used for fuel. Wood is obtained from the adjacent country, and coal from the east. Fruit and vegetables are the only raw materials and clay, sand, and hardwood timber are the natural products. Almost any amount of help can be secured here.

About 65 per cent. of the land surrounding the village, suitable for crop raising, is improved. From 60 to 75 per cent. of the land is rough with a heavy clay soil.

KENOSHA COUNTY.

Kenosha county is located in the southeast corner of the state. It is one of the smallest counties in the state having an area of only 274 square miles. The population in 1905 was 27,372, a gain of 5,669 over the census of 1900. Nearly one-fourth of the population is of foreign birth, Germans and Danes constituting the largest number. There are also many Poles and Italians. The farm area in 1905 was 157,366 acres of which 126,434 acres were improved. The farm value in 1905 including improvements was \$8,982,700 as compared with \$7,124,826 in 1890. practically all of the tillable farm land has been put under cultivation prior to 1890. The surface of the county is comparatively level except in the western part where it is hilly. The soils are mainly clayey loams of the lighter varieties. In the central and eastern parts there are considerable tracts of very fertile prairie loams. Irregular areas of humus soils, composed mainly of muck and peat, occur in various sections of the county. There is a narrow strip of land bordering on the lake of which the soil is a sandy loam. The principal crops and the approximate acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	17,366	19,489
Barley	3,712	1,128
Rye	239	602
Corn	14,281	21,476
Hay	38,341	33,953

Truck farming is one of the leading sources of farm income. The dairy interests of the county are represented by 17 creameries, 1 skimming station and 1 condensing establishment. The price of unimproved land ranges from \$40 to \$60 per acre. For improved land the range of prices is from \$75 to \$115 per acre. Kenosha is the county seat and largest city. The following table shows the population of the cities, villages and towns in the county in 1905:

KENOSHA COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Brighton	179	469	409	878	878	.....	.....	3	163
Bristol	244	597	571	1,168	1,168	.....	.....	9	217
Kenosha, city:									
ward 1	161	818	537	1,355	1,331	21	.....	.....	.....
ward 2	309	878	735	1,603	1,605	3	.....	.....	.....
ward 3	763	1,879	1,710	3,589	3,577	12	.....	.....	.....
ward 4	633	1,749	1,389	3,138	3,133	.....	.....	.....	.....
ward 5	404	1,140	917	2,057	2,052	5	.....	.....	.....
ward 6	246	737	547	1,284	1,283	1	.....	.....	.....
ward 7	477	863	643	1,511	1,511	.....	.....	.....	.....
ward 8	324	890	803	1,693	1,693	.....	.....	.....	.....
Total, city	16,235	.....	.....	.....	.....	.....	.....	61	4,456
Paris	164	416	373	789	789	.....	.....	2	174
Pleasant Prairie	491	1,469	1,106	2,575	2,575	.....	.....	7	671
Randall	158	462	381	843	843	.....	.....	3	145
Salem	422	920	907	1,827	1,827	.....	.....	18	339
Somers	408	1,177	1,015	2,192	2,189	3	.....	14	511
Wheatland	180	469	400	869	869	.....	.....	5	164
Total	5,663	14,928	12,448	27,376	27,330	46	.....	122	6,840

BRISTOL.

Bristol, Kenosha Co. Population, 300. An unincorporated village on the C. & N. W. Ry., in Bristol township, 12 miles west of Kenosha, the county seat and banking point, 45 miles from Milwaukee and 64 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service fair.

Has a drug store, hardware store, 4 general merchandise stores, laundry, 1 hotel, a physician, graded school employing 4 teachers, German Lutheran, German Methodist and Methodist Episcopal churches, 2 wagon and woodworking shops, 2 blacksmith shops, lumber and coal yard, tile factory and a creamery. Needs a first class hotel. Could be made a summer resort. Has fine shade trees, nice streets, good schools and churches and several nice lakes near. Good location for a brick yard.

Coal is the fuel used obtained from the lake ports. Clay and sand are the natural products. Plenty of help can be secured in the vicinity.

The village is located in a good agricultural section and 75 per cent of the land suitable for crop raising is improved. There is very little rough land but about 20 per cent is swampy.



SILVER LAKE, WIS.

KENOSHA.

Kenosha, Kenosha Co. Population, 16,235. Is 23 miles from Milwaukee, 51 miles from Chicago and 115 from Madison. C. & N. W., and C. M. & St. P. Rys. Electric lines to Chicago and Milwaukee. Street railway system. Western Union and Postal telegraph and telephone. American and United States Express. County seat.

This city has a good harbor on lake Michigan, waterworks system, gas and electric light plants and a street railway system. Clay, sand and gravel can be obtained in large quantities, while other raw materials can be shipped to this city at reasonable rates by sail-boats and steam-ships. During the last ten years Kenosha has grown rapidly as a manufacturing city until today it ranks as one of the foremost manufacturing cities in the State of Wisconsin. In 1905, there were located in this city 245 factories with an aggregate capitalization of \$9,691,848, employing 4,354 wage-earners and having an annual product of \$12,662,600. The principal manufactured products are leather, iron beds, machinery, malt, brass goods, springs, automobiles, wagons, kuit goods, gloves, mittens, furniture and typewriters. Several of the factories located here are the largest of their kind in the world. Every kind of manufacturing is well suited to this city and ow-

ing to its proximity to Milwaukee and Chicago, an extensive market is near at hand. There are no unoccupied factories in this city. Two banks furnish adequate banking facilities. The educational facilities are excellent. Kemper Hall, a school for girls is located here. There are 15 physicians and 12 lawyers. There are 8 hotels which would accommodate 800 persons. A new hotel is needed. Kenosha has gained some reputation as a summer resort.

PLEASANT PRAIRIE.

Pleasant Prairie, Kenosha Co. Population, 200. An unincorporated village on the C. & N. W. Ry., in Pleasant Prairie township, 6 miles southwest of Kenosha, the county seat and nearest banking point, 40 miles from Milwaukee and 58 miles from Chicago. American Express. Telephone and telegraph. Good freight facilities and passenger service.

The village is supplied with 2 general merchandise stores, graded school employing 2 teachers, 1 physician, 2 boarding houses, Methodist church, blacksmith shop and a powder mill.

The village is located in a good farming section and the land is nearly all improved. Dairying is the principal occupation of the people, although some are beginning to raise cabbage and small fruits. This is a good location for a creamery or a condensed milk factory. Help is not very plentiful and steam power would have to be used. Coal is used for fuel obtained at Kenosha.

POWERS LAKE.

Powers Lake, Kenosha Co. Population, 300. A summer resort located on Powers Lake in the southwestern part of the county, 23 miles from Kenosha, 3 miles from Bassett, on the C. & N. W. Ry., the nearest rail approach, 6 miles from Richmond, Ill., the nearest banking point.

Has 1 general merchandise store and 4 summer hotels. Mail daily.

SOMERS.

Somers, Kenosha Co. An unincorporated village of about 200 inhabitants, in the northeastern part of the county on the Chicago and Milwaukee division of the C., M. & St. P. Ry., $7\frac{1}{2}$ miles northwest of Kenosha, the county seat and banking point, 27 miles south of Milwaukee and 50 miles north of Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village has a good supply of water, a grocery store, hardware store, and a dry goods store, 1 physician, graded school employing 2 teachers, 2 churches, a hotel, grain elevator, blacksmith shop, a mutual fire insurance company, feed mill and a creamery.

Steam power would have to be used here. Fruit and vegeta-

bles can be furnished for canning purposes; clay is the only natural product. A limited amount of help can be had in the vicinity.

This is a fine agricultural section with a black loamy soil. The land is rolling and all improved. Vegetables growing is the principal occupation. There were 350 car loads of cabbage raised in this section in 1905. There are 2 cabbage storehouses here now and there is a demand for another one. Would probably be a good location for a-canning factory.

WILMOT.

Wilmot, Kenosha Co. Population, 300. An unincorporated village in the southwestern part of the county on the Fox river, 20 miles from Kenosha, the county seat, 6 miles northwest of Antioch, Ill., the nearest banking point and $2\frac{1}{2}$ miles from Camp Lake, the nearest shipping point. Telephone connections.

Has a drug store, hardware store and 3 general merchandise stores, furniture store, shoe store, 1 hotel, 2 boarding houses, 1 physician, good high school employing 5 teachers, churches, harness shop, blacksmith shop and meat market. A weekly newspaper is published. The village is a summer resort and is in need of a first-class hotel.

Wood and coal are used for fuel. Wood can be obtained from the adjacent country and coal from Kenosha. Such raw materials as fruit and vegetables can be furnished for canning. Clay, sand, gravel and peat are the natural products. Help can be secured in the vicinity. The Fox river furnishes water power.

This is a good farming section and the land is all improved.

KEWAUNEE COUNTY.

Kewaunee county is located in the eastern part of the state on the shore of Lake Michigan. The area is 327 square miles. The population in 1905 was 17,003.. Over one-fifth of the population is of foreign birth, of which number Bohemians are the most numerous, but there are also large numbers of Germans and Belgians. Practically all of the county is occupied for agricultural purposes. The farm area in 1905 was 202,446 acres, of which 131,374 acres were improved. The value of these farms in 1905 including improvements was \$8,674,895 as compared with \$4,369,080 in 1890, when the

total farm area was 192,247 acres. From the northeast to the southwest the topography of the county is of the irregularly rolling type, but otherwise the surface has the gently rolling character of the old lake plane of which it forms a part. The soils of this county are almost exclusively clayey loams, the greater portion being of the red clay variety except a strip extending down the central part of the county where the soil is a fertile loamy clay. This soil is well adapted to dairying and stock raising. A narrow strip of land occurs in the northeastern part of the county along the lake shore, and a similar strip extends southward from the center of the county. There are several irregular tracts of swampy soil in different parts of the county. The chief crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	22,934	11,901
Oats	15,211	18,700
Barley	2,631	7,400
Rye	6,024	6,495
Clover Seed	1,670	3,166
Hay	27,462	33,836

The dairy interests of the county are represented by 50 cheese factories and 4 creameries. There is very little unimproved land capable of being made productive. The range of prices for improved farm lands is from \$50 to \$100 per acre, with the average price about \$60 per acre. Kewaunee is the county seat. The population of the political divisions of the county for 1905 is given on the opposite page.

ALGOMA.

Algoma, Kewaunee Co. Population, 2,608. An incorporated city on the A. & W. Ry., and on Lake Michigan, in the northeastern part of the county, 10 miles north of Kewaunee, the county seat, 26 miles south of Sturgeon Bay, 31 miles from Green Bay, 160 miles from Milwaukee and 240 miles from Chicago. United States Express. Telegraph and telephone. Fair freight facilities and passenger service, owing to water competition.

The city is supplied with municipal water works, is lighted by electricity, has a bank, 2 drug stores, 8 groceries, 2 hardware, 3 dry goods and 2 general merchandise stores, 2 laundries 5 hotels, good public schools employing 8 teachers, churches of the leading religious denominations, 3 physicians and 2 lawyers. Has a fly net factory, lace works, veneer factory, planing mill,

cheese box factory, furniture factory, wood plumbing company and canning factory. The city owns the water and light plant and operates it at a profit to the city. A weekly newspaper is published.

KEWAUNEE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.				
		Male.	Female.	Total.	White.	Colored.	Indians.	Ex-soldiers and sailors.	Militia.
Ahnapee	223	625	535	1,160	1,160	.....	.....	3	229
Algoma, city	426	1,027	981	2,008	2,008	.....	.....	19	437
Carlton	279	733	653	1,386	1,386	1	.....	5	253
Casco	229	623	574	1,197	1,197	.....	.....	1	208
Franklin	281	781	686	1,466	1,466	.....	.....	1	223
Kewaunee, city	388	883	836	1,719	1,713	*1	.....	11	364
Lincoln	196	643	555	1,198	1,198	.....	.....	3	235
Luxemburg	311	935	834	1,769	1,763	.....	1	5	348
Montpelier	246	750	763	1,513	1,513	.....	.....	.....	183
Pierce	135	342	350	692	692	.....	.....	5	103
Red River	228	704	622	1,326	1,326	.....	.....	5	268
West Kewaunee	300	836	733	1,569	1,569	.....	.....	7	271
Total	3,232	8,882	8,121	17,003	17,000	2	1	65	3,114

*1 Chinaman.

There is a good opening for another furniture factory. There is an idle factory here that formerly manufactured chamber suits. The plant can be bought at a very reasonable price. Steam power is used for manufacturing purposes. Coal and wood are used for fuel. Coal is shipped in by boat and wood is plenty in the vicinity. There is plenty of help to be had in the city. Apples, strawberries, vegetables, fish, peas and beans can be supplied for canning. Clay, sand, timber and building stone are the natural products.

The surrounding country is good for farming and seven-eighths of the land suitable for crop raising is improved. 75 per cent of the land is level and covered with a good soil.

CASCO.

Casco, Kewaunee Co. Population, 300. Not incorporated. Situated on the Ahnapee & Western Ry., in the north central part of the county, 15 miles northwest of Kewaunee, the county seat, and 25 miles from Green Bay and 32 miles from Sturgeon Bay. United States Express. Telegraph and telephone. Shipping facilities and passenger service fair. Railway and water routes in competition.

The village is supplied with a bank, 2 grocery stores, a hardware store, 1 dry goods store, graded school employing

2 teachers, Catholic church, 1 physician, blacksmith shop, meat markets, foundry and saw mill.

Steam power is used here for manufacturing purposes. Wood is used for fuel obtained from the adjoining country. Fruit and vegetables are the only raw materials for canning; clay, sand, stone, peat and timber are the natural products. A limited amount of help could be secured. There is a good opening here for an elevator, lumber yard, drug store, planing mill, and a creamery.

The surrounding country is good for farming purposes and about 2-3 of the land suitable for crop raising is improved.

KEWAUNEE.

Kewaunee, Kewaunee Co. Population, 1,719. An incorporated city located at the mouth of the Kewaunee river on Lake Michigan, in Kewaunee county, of which it is the county seat, and on the K. G. B. & W. Ry., 37 miles from Green Bay, 166 miles from Milwaukee (by rail), and 251 miles from Chicago. United States Express. Telegraph and telephone. Connections are made with the Ann Arbor Ry. by lake ferries. Pere Marquette ferries connecting with P. M. Ry. at Ladington, Mich. Goodrich line of steamers for west shore traffic.

The city has a bank, 2 drug stores, 6 groceries, 3 hardware, 4 clothing and 2 general merchandise stores, a millinery store, good public schools employing 9 teachers, a parochial school, good churches, 5 hotels—capacity 125 guests, 5 physicians, 3 lawyers, a laundry, 5 farm implement dealers, furniture stores, canning factory, planing mills, flour mills, foundry and machine shop, brewery, agricultural implement factory, and saw mill machinery plant. Three weekly newspapers are published.

Coal for fuel is obtained from the east by boats. Such raw materials as fruit, vegetables and fish can be supplied for canning. Clay, sand and stone are the natural products. Help is very plentiful in the city. A good location for woodworking factory.

The surrounding country is a good agricultural section and about 80 per cent of the land suitable for crop raising is improved. The surface of the land is about 25 per cent rolling and the remainder is level and free from stone. Some sand along the lake shore and some swamps. Dairying is the principal occupation of the farmers, the county ranking third in dairy products in the state.

LA CROSSE COUNTY.

La Crosse county is located in the west central part of the state on the Mississippi river. The area is 475 square miles. The population in 1905 was 42,850. Nearly one-fourth of the population is foreign born, Germans and Norwegians greatly predominating. This country possesses some excellent agricultural lands. The total farm area in 1905 was 243,634 acres, of which 130,107 acres were improved. The value of the farms in 1905, including improvements was \$8,159,943, as compared with a valuation of \$4,668,618 in 1890. The surface of the county in the southern part is very uneven, consisting of high valley ridge land intersected in all directions by deep ravines and valleys, often bordered with precipitous cliffs, the elevation of the ridges above the valleys often being several hundred feet. The soil of the southern half of the county commencing several miles south of La Crosse river is a light clayey loam varying to prairie loams of a light and open nature and easily worked. The forest growth of this region is chiefly maple, elm, basswood, oak and ash. In the northern half of the county the ridges are not so steep and high and the intervening valleys are much wider. The soil is a sandy loam, similar to the soil of Trempealeau and Jackson counties. It is an excellent potato and small fruit soil, but on account of its open texture and small water capacity, is not so well adapted to hay or grain, and in the line of animal industry is better suited to sheep and hogs than to dairying. Along the Black, Mississippi and La Crosse rivers the soil is generally sandy and supporting a growth of small black oak. Along the La Crosse river and its tributaries occur occasional areas of humus soils composed mainly of muck and peat. The leading crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Barley	2,414	7,226
Corn	19,553	17,648
Hay	28,900	27,480
Oats	24,040	30,290
Rye	5,419	3,474
Wheat	11,194	3,408

There are 6 cheese factories, 6 creameries and 2 skimming stations in the county. There are no large areas of unimproved land which can be made tillable as nearly all of the unimproved land in the county consists of small tracts in connection with the improved farms. Such unimproved land varies in price from \$15. to \$35. per acre. Improved farm lands range in price from \$40. to \$100. per acre. Marsh and bottom timber lands can be purchased for a few dollars per acre. La Crosse is the county seat. The population of the various political divisions in 1905 was as follows:

LA CROSSE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Bangor	124	376	319	695	695	.....	.....	1	156
Bangor, village	198	322	373	695	695	.....	.....	8	101
Barre	162	276	265	541	541	.....	.....	1	117
Burns	222	569	484	1,053	1,053	.....	.....	3	192
Campbell	210	504	430	934	934	.....	.....	6	173
Farmington	348	953	945	1,898	1,896	2	.....	8	853
Greenfield	128	380	318	698	698	.....	.....	1	153
Hamilton	252	677	579	1,256	1,255	1	.....	3	261
West Salem, village...	246	413	455	868	868	.....	.....	12	171
Holland	220	593	499	1,092	1,092	.....	.....	3	197
La Crosse, city:									
ward 1	371	755	793	1,548	1,548	.....	.....	6	334
ward 2	260	678	590	1,268	1,264	4	.....	7	326
ward 3	365	722	779	1,501	1,501	.....	.....	8	270
ward 4	334	636	764	1,400	1,393	7	.....	20	220
ward 5	265	570	573	1,143	1,137	6	.....	10	201
ward 6	232	548	701	1,249	1,249	.....	.....	25	193
ward 7	327	679	769	1,448	1,448	.....	.....	6	230
ward 8	501	1,166	1,239	2,405	2,405	.....	.....	7	402
ward 9	320	755	756	1,511	1,511	.....	.....	12	305
ward 10	359	781	717	1,498	1,498	.....	.....	11	285
ward 11	276	648	716	1,364	1,364	.....	.....	1	223
ward 12	219	596	469	1,065	1,040	15	.....	5	235
ward 13	265	563	566	1,129	1,134	.....	.....	8	195
ward 14	323	676	851	1,527	1,527	.....	.....	12	208
ward 15	306	741	716	1,457	1,449	8	.....	7	273
ward 16	176	386	452	838	838	.....	.....	8	114
ward 17	341	810	1,227	2,037	2,037	.....	.....	6	250
ward 18	418	965	969	1,934	1,934	.....	.....	6	331
ward 19	254	566	589	1,155	1,155	.....	.....	10	179
ward 20	198	465	417	882	882	.....	.....	11	180
ward 21	141	377	347	724	719	5	.....	3	98
Total, city, 29,078									
Onalaska	188	517	479	996	996	.....	.....	8	193
Onalaska, city	269	536	570	1,106	1,104	2	.....	22	147
Shelby	191	653	497	1,150	1,150	.....	.....	6	269
Washington	139	439	351	790	790	.....	.....	1	182
Total	9,098	21,296	21,554	42,850	42,800	50	.....	272	7,658

BANGOR.

Bangor, La Crosse Co. An incorporated village of 695 inhabitants. Located on both, the C., M. & St. P. and the C. & N. W. Rys., 247 miles from Chicago, 182 miles from Milwaukee and 16 miles from La Crosse. Telegraph and telephone. American and United States Express. First class freight and passenger facilities.

The village is supplied with plenty of water, an electric light plant, 1 bank, 2 drug stores, 3 general stores, 1 racket store, a restaurant, 2 blacksmith shops, barber shop, meat market, 2 hotels, clothing store, 2 lumber yards, brewery, 2 elevators, 3 physicians, 1 lawyer, and a high school employing 8 teachers. La Crosse river flows through the village. The streets are well kept, and well supplied with shade trees, and there is a public park. Such raw materials as fruit, vegetables, clay, sand and stone can be supplied. A canning, shoe or implement factory is best suited for the place, and plenty of help can be procured.

The soil of the surrounding country is very fertile, all the land suitable for farming purposes is improved.

LA CROSSE.

La Crosse, La Crosse Co. Population, 29,078. Situated in western Wisconsin at the confluence of the La Crosse and Black rivers with the Mississippi. It is 197 miles from Milwaukee and 125 miles from St. Paul. The city is situated on the line of the G. B. & W. Ry., the C. M. & St. P. Ry., the C. & N. W. Ry., and the C. B. & Q. Ry., and the L. & S. E. Ry. First class facilities for receipt and shipment of freight. Excellent passenger service. An extensive commerce is conducted on the Mississippi river during the season of navigation. Telegraph and telephone. Street railway. Adams, American and United States Express.

La Crosse, once the seat of a most extensive lumbering and saw-mill industry, has just emerged from the stagnation resulting from the passing of the forests. The capital formerly invested in lumbering has not left the city with the developing of lumbering in the south and the west, but has been invested in more permanent and more diversified manufacturing. In addition to its saw-mills, which are still an important factor in the industrial position of the city, there are large plants for the manufacture of agricultural implements, carriages and wagons, confectionery goods, clothing, cigars, sash, doors, etc., malt liquors, machinery, boilers, stoves, rubber goods, flour, knit goods and pearl buttons. The five large breweries afford a market for 150,000 bushels of barley and 100,000 pounds of hops annually. There are a total of 150 manufacturing establishments in the city, with a capitalization of \$7,000,000, employing 391 salaried officials and clerks, and an average of 3,000 wage-earners. The annual product is valued at nearly \$9,000,000. La Crosse has an extensive

wholesale and jobbing trade, having for its market eastern Wisconsin, southern Minnesota, northern Iowa, and the states to the west. The city has 6 banks, 4 daily and 6 weekly newspapers. The city owns its waterworks system which is complete in every respect. The streets are uniformly well paved, the business streets being paved with brick. The street railway with fifteen miles of track reaches all portions of the city. The city is lighted by electricity and gas. The Yaryan system of hot water heating has been installed recently. There is a well equipped paid fire department. While every form of industry is welcomed, the city owing to its proximity to the hardwoods of this state, offers the best inducements for the manufacture of agricultural implements and vehicles.

The surrounding country which is a well settled agricultural district could furnish a large additional labor force. Homes can be purchased very reasonably. Every inducement is offered for the location of new commercial and manufacturing establishments by the La Crosse Board of Trade, which for over a generation has been industriously active in the upbuilding of the city.

ONALASKA.

Onalaska, La Crosse Co. An incorporated city having a population of 1,106. Located on the C. B. & Q., and the C. & N. W. Rys., 261 miles from Chicago, 214 miles from Milwaukee and 5 miles from La Crosse. An electric railroad running to La Crosse. United States, American and Adams Express. Telegraph and telephone. Excellent passenger facilities.

The city is supplied with an electric light plant, bank, drug store, 3 groceries, hardware, 3 dry goods stores, 3 meat markets, 3 blacksmith shops, 2 confectionery stores, 2 shoe shops, bicycle and repair shop, 2 patent medicine establishments, woolen mills, a pickle factory, 3 hotels, 3 boarding houses, 1 physician and a high school employing 9 teachers. A first-class hotel is needed.

The city has an undeveloped water power. Coal shipped from Illinois is used for fuel. Such raw materials as fruit, vegetables, fish from the Mississippi river, clay, sand, timber and stone can be supplied, and plenty of help secured. A beet sugar factory, bottling works or any establishment utilizing the raw materials that can be supplied here are best suited for the place.

Excellent farming land surrounds the city. Soil is very fertile and all improved.

WEST SALEM.

West Salem, La Crosse Co. An incorporated village of 868 inhabitants. Located on both the C. & N. W. and the C. M. & St. P. Rys., 186 miles from Milwaukee, 252 miles from Chicago and 12 miles from La Crosse. Excellent freight and passenger facilities. United States and American Express. Telegraph and telephone.

The village has an electric light plant, 2 banks, drug store, 4 groceries, 2 hardwares, 2 general stores, 3 lumber yards, cement walk establishment, 2 physicians, a high school employing 7 teachers, 3 hotels, and 2 boarding houses. A first-class hotel is needed.

The streets are level and in good condition with an abundance of shade trees. About one mile from the village is a one thousand-horse water power that can be very easily developed. Wood and coal are used as fuel, the latter being shipped in from Illinois. Such raw materials as fruit, vegetables, sand, lime stone, clay and hardwood can be supplied and plenty of help procured. A canning or furniture factory, woolen mill or a brick yard is best suited for the place.

The soil surrounding the village is excellent for all kinds of farming and the land is well improved.

LAFAYETTE COUNTY.

La Fayette County is situated in the south-western part of the state. The area is 634 square miles. The population in 1905 was 20,277. It is one of the oldest counties in the state and consequently the present population is largely native born. Only about one-seventh of the population is foreign born, consisting chiefly of Norwegians, Germans and English. The early settlement also resulted in the occupation and development of available farming lands at an early date. In 1905 the total acreage devoted to agricultural purposes was 372,325 acres, of which 321,604 acres were improved. In 1890 the total farm area and the amount of improved lands were 355,172 acres and 278,119 acres respectively. While the acreage increased but a comparatively small amount, the valuation of the farms including improvements, increased from \$11,934,750 in 1890 to \$20,076,389 in 1905, or nearly 70%. The land of the county consists of alternating flat topped ridges and river valleys. The Pecatonica river with its tributaries, breaks the land up into a series of ridges and hills which gives the surface a rather hilly topography. The soil of the county is uniformly excellent. It consists almost

entirely of clayey loams of the lighter and medium varieties interspersed with large irregular tracts of prairie loams. The excellent drainage furnished by the numerous small streams makes the county singularly free from swamps and marshes. The lighter varieties of loam are found along the river valleys and the heavier on the tops of the ridges. The county contains no gravel or foreign boulders such as are frequent in the eastern part of the state. The leading crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Barley	2,344	3,957
Corn	60,031	64,138
Hay	50,412	61,493
Oats	61,906	44,241
Rye	2,601	766
Wheat	3,010	379

Lafayette County is situated in the richest dairying district in the state, and one of the richest in the United States. In 1905 there were in the county 86 cheese factories, 19 creameries and a skimming station. The county is also located in one of the wealthiest lead and zinc mining districts, and mining is rapidly becoming a leading industry. There is practically no unimproved land remaining which can be made tillable except small tracts owned in connection with improved farms. The range of prices for improved lands is from \$50 to \$150 per acre. Darlington is the county seat. The population of the local political divisions of the county for 1905 is given on the opposite page.

BELMONT.

Belmont, Lafayette Co. Population 513. An incorporated village in the northwestern part of the county, on the Platteville branch of the C. M. & St. P. Ry., 16 miles northwest of Darlington, the county seat, 72 miles from Platteville, 86 miles from Madison, 152 miles from Milwaukee and 181 miles from Chicago. United States Express. Shipping facilities and passenger service fair.

The village is supplied with a telephone system, a bank, drug store, 2 hardware and 3 general merchandise stores, a hotel, 2 boarding houses, 2 physicians, high and graded schools employing 5 teachers, Lutheran, Methodist and Episcopal churches, harness shop, 2 blacksmith shops, a creamery and a weekly newspaper.

LA FAYETTE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Argyle	163	481	418	899	899	.....	.....	4	199
Argyle, village	154	280	292	572	572	.....	.....	11	98
Belmont	135	362	304	666	666	.....	.....	2	137
Belmont, village	134	231	282	513	513	.....	.....	7	86
Benton	174	482	421	903	903	.....	.....	2	223
Benton, village	114	241	259	500	500	.....	.....	6	91
Blanchard	88	243	226	469	469	.....	.....	2	86
Blanchardville, village	146	338	304	642	642	.....	.....	8	138
Darlington	226	586	524	1,110	1,110	.....	.....	9	231
Darlington, city:									
ward 1.....	234	437	460	897	896	*1	.....	.....	.....
ward 2.....	262	418	528	946	946	.....	.....	.....	.....
Total, city.....	1,843							30	316
Elk Grove	136	400	349	749	749	.....	.....	3	164
Fayette	172	438	405	843	843	.....	.....	4	157
Gratiot	238	632	538	1,170	1,170	.....	.....	5	254
Gratiot, village	87	178	179	357	357	.....	.....	7	70
Kendall	121	342	307	649	649	.....	.....	2	127
Lamont	110	297	245	542	542	.....	.....	8	106
Monticello	62	153	124	277	277	.....	.....	2	63
New Diggings	206	451	420	871	871	.....	.....	13	188
Seymour	132	380	346	726	726	.....	.....	.....	111
Shullsburg	144	384	360	744	744	.....	.....	4	171
Shullsburg, city:									
ward 1.....	128	199	268	467	466	1	.....	.....	.....
ward 2.....	164	321	365	686	686	.....	.....	.....	.....
Total, city.....	1,133							14	27
Wayne	245	598	575	1,173	1,173	.....	.....	18	229
White Oak Springs	63	165	146	311	311	.....	.....	1	83
Wilton Springs	204	486	425	911	911	.....	.....	2	226
Wlota	336	866	818	1,684	1,681	.....	.....	13	354
Total	4,378	10,389	9,888	20,277	20,275	2	.....	177	4,120

*1 Chinaman.

Steam power is used here and wood is used for fuel. Vegetables can be supplied for canning. There is plenty of clay, stone, jack and lead in the vicinity. No help can be secured here. A canning factory is needed.

The adjoining country is good for farming and about 75 per cent of the land is improved. Three-fourths of the country is level and free from stone, and the soil is good.

BENTON.

Benton, Lafayette Co. Population, 500. An incorporated village on the C. & N. W. Ry., in the southwestern part of the county, 20 miles southwest of Darlington, the county seat, 16 miles from Galena, Ill., 7 miles from Platteville, 95 miles from Madison, 177 miles from Milwaukee and 182 miles from Chicago. American Express. Telegraph and telephone. Fair shipping facilities and passenger service.

The village is in the midst of a good mining country and is supplied with an electric light plant, has a bank, a drug store, grocery, 2 hardware and 3 general merchandise stores, a clothing store, 2 hotels, 2 boarding houses, good public schools employing 6 teachers, Catholic, Methodist, Episcopal and Primitive Methodist churches, a physician, 2 blacksmith shops, wagon shop, harness maker, flour mill 1 mile east, and a creamery. A weekly newspaper is published. A first class hotel is needed.

Steam power is used. Coal is used for fuel obtained from Galena and Chicago. Vegetables can be supplied for canning and clay, stone, zinc and lead are the natural products. Help is scarce here owing to the demand for help in the mines.

The surrounding country is good for farming and about 2-3 of all the land is improved. Soil is a black loam.

BLANCHARDSVILLE.

Blanchardville, Lafayette Co. Population, 642. An incorporated village in the northwestern corner of the county, on the Dodgeville branch of the Illinois Central Ry., and on the Pecatonica river, 20 miles northeast of Darlington, the county seat, 67 miles from Madison, 149 miles from Milwaukee and 160 miles from Chicago. American Express. Telephone and telegraph. Fair shipping facilities and passenger service.

The village is lighted by electricity, has a bank, drug store, 2 hardware stores, 6 general merchandise stores, 2 hotels, 3 physicians, a lawyer, and several churches; has good public schools employing 6 teachers. There is a good opening here for a laundry.

Wood for fuel is obtained from the adjacent country and coal from Illinois. Small fruit and vegetables can be supplied for canning. Brick clay can also be supplied. A brick yard is already established.

Help is scarce in the vicinity. There is some good farm land in the adjacent country and about $\frac{1}{2}$ of the land suitable for crop raising is improved. The country is hilly and stoney but has a good clay soil. The mineral deposits are not developed.



FIRST AND LAST SCHOOL BUILDINGS ERECTED AT ANTIGO, WIS.
THE RESULT OF 25 YEARS GROWTH.

DARLINGTON.

Darlington, Lafayette Co. Population, 1,843. An incorporated city on the C., M. & St. P. Ry., and on the Pecatonica river in the central part of Lafayette county, of which it is the judicial seat, 60 miles from Madison, 67 miles from Janesville, 13 miles from Milwaukee and 166 miles from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The city has a good system of water works, electric light plant, 2 banks, 3 drug stores, 3 hardware stores, 3 general merchandise stores, 5 grocery stores, 2 furniture stores, 2 shoe stores, 2 jewelry stores, 3 hotels, 2 boarding houses, an elegant high and graded school system employing 13 teachers, 5 churches, 5 physicians, 7 lawyers, 4 dentists, laundry, harness shop, 4 blacksmiths, 2 meat markets, cigar factory, cheese factory, feed mill and 2 grain elevators. There are 2 fine school buildings, a new \$125,000 court house, a \$10,000 free library building, paved streets, many nice shade trees, a public park and soldiers monument. Three weekly newspapers are published. A first-class hotel is needed. This is a good location for a milk condensing factory.

There is an undeveloped water power. Coal for fuel is obtained at Milwaukee. A canning factory can be supplied with fruit and vegetables. Clay, sand, stone, zinc and lead are the natural products. Plenty of help can be secured.

The city is surrounded by a fine farming country and the land is all utilized. About 50 per cent of the land is hilly but is all used for pasture. The soil is a black loam with a clayey subsoil. The farms in this section are not surpassed in the state for dairying and stockraising. Cheese manufacturing is the chief industry.

GRATIOT.

Gratiot, Lafayette Co. Population, 357. An incorporated village on the C., M. & St. P. Ry. in Gratiot township, 10 miles southeast of Darlington, 60 miles from Madison, 128 miles from Milwaukee and 156 miles from Chicago. United States Express. Telephone and telegraph. Good shipping facilities and passenger service.

The Pecatonica river furnishes considerable water power at this place. The village has a bank, drug store, 2 hardware and 4 general merchandise stores, jewelry store, furniture store, 2 good hotels, 2 boarding houses, graded schools employing 4 teachers. Catholic and Methodist churches, a physician, lumber yard, blacksmith shop, meat market, 2 feed mills and a creamery.

Water power can be utilized for manufacturing purposes. Wood for fuel can be obtained in the vicinity and coal from

Chicago. Such raw materials as fruit and vegetables can be supplied for canning. The natural products are clay, stone, timber, lead and zinc. There is plenty of help in the village and surrounding country. There is an opening here for a canning factory or woolen mills.

The adjacent land is suitable for farming and is all improved. About 50 per cent of the country is level.

SHULLSBURG.

Shullsburg, Lafayette Co. Population, 1,153. An incorporated city located on the C., M. & St. P. Ry., in the southwestern part of the county, 12 miles west of Gratiot Junction, 12 miles southwest of Darlington, 60 miles from Madison, 141 miles from Milwaukee and 168 miles from Chicago. United States Express. Telephone and telegraph. Shipping facilities and passenger service fair.

The city is supplied with a bank, 2 drug stores, 2 hardwares, 4 groceries and 5 general merchandise stores, a clothing store, good high and graded schools employing 7 teachers, Catholic, Congregational, Methodist and Lutheran churches, 2 hotels, a boarding house, 3 physicians, 3 lawyers, furniture store, blacksmith shop, harness shop, cigar factory, brewery, cheese factory, creamery, small mining companies, etc. A weekly newspaper is published. The city owns and operates the water works with 10,000 feet of mains.

Steam power is used. Wood for fuel is obtained in the vicinity and coal is shipped from the east. The only raw materials for canning are vegetables. The principal natural products are zinc and lead ore and a number of mines are being developed. A smelting plant would do well here. Help can be secured.

The surrounding country is well adapted for stock raising and farming and quantities of cattle, hogs, grain and butter are shipped.

SOUTH WAYNE.

South Wayne, Lafayette Co. Population, about 300. An unincorporated village on the C., M. & St. P. Ry., in Wayne township, 18 miles southeast of Darlington, the county seat, 50 miles from Madison, 47 miles from Janesville, 117 miles from Milwaukee and 146 miles from Chicago. United States Express. Telephone and telegraph. Good shipping facilities and passenger service.

The village is supplied with a bank, a drug store, 2 hardware and 4 general merchandise stores, furniture store, a hotel, graded public school employing 3 teachers, 2 physicians, Baptist, Catholic, Methodist and Episcopal churches, 2 blacksmith shops, meat markets, feed mill and a creamery.

Coal and wood are the fuels used. Wood can be obtained from the adjacent country and coal from the east. Vegetables can be supplied for canning and clay, sand and stone are the natural products. A limited amount of help can be secured in the vicinity. A hotel and canning factory are needed.

About 75 per cent of the land surrounding the village suitable for crop raising is improved. Dairying is the chief industry.

LANGLADE COUNTY.

Langlade county is located in the northeastern part of the state. The area is 855 square miles. The population in 1905 was 15,738, a gain of 3,185 over the census of 1900. Over one-sixth of the population is foreign born, nearly one-half of which are Germans. There are also large numbers of Bohemian, Canadian and Polish settlers. The total farm area in 1905 was only 113,175 acres, of which but 38,578 acres were improved. In 1890 the area of all the farms in the county was 77,831 acres, of which 13,632 acres were improved. The value of the farms and improvements in 1905 was \$3,465,038, as compared with only \$1,050,191 in 1890, a gain of \$2,414,847 or nearly 225% in 15 years. There are large tracts of land in this county awaiting the settler, the total present farm acreage being less than 30% of the area of the county. The topography of the county is more or less rolling and hilly. In the northern part the surface is characterized by belts of ridges and billowy hills, and associated with basin-like depressions, swamps and numerous small lakes or ponds. These hills and ridges generally have steep slopes and often rise to a considerable height above the surrounding land. In the south-western part of the county the land is quite level and presents a prairie-like plain. There are numerous irregular areas of swampy soil. The soil is mainly a clayey and gravelly loam of the lighter varieties, with an increasing number of boulders toward the north. The subsoil consists of gravel and sand. Wherever farms have been cleared the soil has shown itself capable of producing good crops. Its productive quality is attested by the numerous thriving farms established within the last decade. It maintains with ease an excellent dairy and stock industry.



SCENE IN THE CITY OF ANTIGO, WIS. VENEER SEATING PLANT IN THE DISTANCE.



FIRST HOUSE BUILT IN ANTIGO, COUNTY SEAT, TWENTY-FIVE YEARS AGO IN SOLID WILDERNESS.

Grasses, clover, potatoes and the smaller crops yield excellent returns. The chief crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	43	941
Oats	2,345	8,461
Barley	76	1,189
Rye	232	294
Hay	8,650	16,056

There are 11 cheese factories and 3 creameries in the county. The standing hardwood, elm, maple, basswood, oak and hemlock show a dense growth. The pine has all been cut. The price of unimproved land ranges from \$10 to \$30 per acre. For improved land the price ranges from \$25 to \$100, according to quality and nearness to markets. The marshes are practically worthless for farm purposes. Antigo is the county seat and largest city. The following table shows the population of the cities, towns and villages of the county in 1905:

LANGLADE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPU- LATION.			COLOR			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Ackley	147	434	365	789	789	.....	.....	2	154
Ainsworth	31	71	68	139	89	.....	50	.....	23
Antigo	232	699	594	1,293	1,293	.....	.....	10	210
Antigo, city:									
ward 1.....	170	381	397	778	778	.....	.....	.....	.....
ward 2.....	198	471	478	949	948	.....	1	.....	.....
ward 3.....	195	523	488	1,011	1,011	.....	.....	.....	.....
ward 4.....	289	762	732	1,494	1,494	.....	.....	.....	.....
ward 5.....	181	471	471	942	939	3	.....	.....	.....
ward 6.....	210	760	729	1,489	1,489	.....	.....	.....	.....
Total, city...6,663								52	1,322
Elcho	54	240	202	442	441	1	.....	2	90
Elton	40	90	75	165	165	.....	.....	1	27
Evergreen	61	22	146	348	348	.....	.....	1	92
Langlade	45	107	64	171	167	4	.....	2	48
Neva	184	538	438	976	976	.....	.....	1	227
Norwood	198	521	487	1,008	1,008	.....	.....	8	187
Peck	88	210	173	383	383	.....	.....	7	71
Polar	194	591	446	1,037	1,024	8	5	6	243
Price	122	308	262	570	570	.....	.....	1	113
Rolling	192	576	499	1,075	1,072	3	.....	3	190
Summit	48	149	102	251	251	.....	.....	2	49
Upham	39	146	90	236	236	.....	.....	.....	77
Vilas	42	93	99	192	192	.....	.....	4	33
Total	3,001	8,343	7,395	15,738	15,663	15	60	102	3,166

*3 Chinamen.



TROUT CAUGHT IN SPRING BROOK, ANTIGO, WISCONSIN.

ANTIGO.

Antigo, Langlade Co., is an incorporated city having a population of 6,603, located on the C. & N. W. Ry., 264 miles from Chicago, 179 miles from Milwaukee, and 160 miles from Ashland. Has telephone and telegraph communications. Good freight and passenger facilities. American Express.

Wood obtained from the saw mills and the surrounding forests is the principal fuel. Such raw materials as small fruit, vegetables, sand, clay, stone and an abundance of timber can be supplied, and Antigo is a suitable place for any industry that can utilize these. About 500 young persons can be procured here for canning factories in the summer, and 200 men can be secured for any kind of factory work the year round. A screen door factory was once established here but failed because profits were too small. The city is supplied with an electric light plant, 2 banks,

4 drug stores, 20 groceries, 5 hardwares, 1 department store, school system, 8 physicians, 13 lawyers, and a public park. Three weekly and one semi-weekly papers are published. The streets are wide and well kept.

The land surrounding Antigo is very fertile and most of it is well adapted for general farming and stock raising. About 20% of it is rough, 50% level and free from stone, 7% swampy and 3% sandy. The largest portion of tillable land is yet unimproved and can be purchased reasonably cheap.

BRYANT.

Bryant, Langlade Co., is an unincorporated village of about 300 people, situated on the C. & N.W. Ry., 273 miles from Chicago, 188 miles from Milwaukee. Freight and passenger service good. Has telephone and telegraph communications. American Express.

Such raw materials as timber, sand and stone can be supplied in abundance, and any industry such as a furniture factory or other woodworking establishment would be best suited for the place. Plenty of help for factory work can be secured. The village is supplied with 1 grocery store, 1 hardware, 1 dry goods store, 1 hotel, a boarding house, and 1 physician.

The land of the surrounding country is very fertile, one fourth of it being somewhat rolling, and the remainder is level, free from stone, sand or marshes. Only about one tenth of this land is as yet improved.

ELTON.

Elton, Langlade Co., is an unincorporated village of about 200 people, located at the end of a spur of the C. & N. W. Ry., running out from Bryant. Is 273 miles from Chicago, 192 miles from Milwaukee. Freight and passenger facilities not good. American Express.

An abundance of wood for fuel can be procured in the immediate vicinity. An abundance of timber as raw material can also be procured from the surrounding forests. A general store is all the industrial establishment the village is supplied with. There are numerous trout streams flowing through the surrounding country, and there are many beautiful lakes filled with other varieties of fresh water fish within reasonable distances of the village.

Part of the surrounding country is stony, some swampy, and a little rolling, but the soil is excellent for general farming purposes.



HUNTING SCENE IN LANGLADE COUNTY.



RESIDENCE OF CHIEF MAQUANTIGOSIPAWISHANSE, LANGLADE CO.

KOEPEINICK.

Koepenick, Langlade Co., is an unincorporated village of about 200 inhabitants, located on the C. & N. W. Ry., 279 miles from Chicago, 194 miles from Milwaukee and 146 miles from Ashland. Has good freight and passenger accommodations. Telegraph communications. American Express.

The village has a small undeveloped water power. Plenty of labor can be secured for any establishment the village will support; such raw materials as vegetables, clay, sand, stone and an abundance of timber can be supplied. A furniture factory is most suitable for this place. It is supplied with two groceries, two hardwares, two general stores, a saw mill, one hotel and one boarding house.

The land of the surrounding country is well adapted for farming purposes, but as yet there are only four farms located anywhere near the village. The soil is a clayey loam, very little of which is stony, sandy or swampy.

PHLOX.

Phlox, Langlade Co., is an unincorporated village of about 200 inhabitants, situated 9 miles from the C. & N. W., and 4 miles from the Mattoon Ry. American Express.

This place can be made a summer resort. A grist mill and hub mill is best suited for the place. Clay, sand, timber and stone can be supplied. Two grocery stores, 2 general stores and 2 hotels are located here.

A good farming country surrounds the village, about three fourths of the land suitable for farming purposes being improved. The soil is fertile, level, free from stone and swamps.

LINCOLN COUNTY.

Lincoln county is located in the north-central part of the state. The area of this county is 885 square miles, with a population in 1905 of 19,125, a gain of 2,856 over 1900. Those of foreign birth number 5,322, of which number over one-half are Germans, Canadians and Scandinavians ranking next in order. The farm acreage in 1905 was 106,757, of which amount 24,841 acres were improved. The value of these farms in 1905 with improvements was \$2,074,388. In 1890 the farm acreage was 63,481 valued at \$677,075. Covering the larger part of the three northern townships, the soil is very sandy and gravelly, containing a variable though small amount of clay. The sur-



A NORTHERN WISCONSIN HOME.

face is uneven with bouldery drift hills alternating rapidly with level stretches of sandy plains. The lower lands have uniformly sandy soils, while the hilly lands are bouldery and gravely mixed with clay. There are numerous swamps and lakes. The forest growth of this region was Norway and white pine. Owing to its coarse and porous nature this soil is not very fertile and is best adapted to light farming and grazing. From the northwest corner of the county down to the central part and touching the Wisconsin river the soil is a clay loam, with a gently sloping and rolling surface, with here and there broad level stretches. There are some swamps but no lakes in this district. A variable amount of boulders are scattered over the surface but not in sufficient numbers to greatly interfere with cultivation. The forest growth of this region is birch, maple elm and basswood. While but little of this soil is as yet under cultivation, where it has been cleared it has shown itself capable of producing good grain, grasses and corn and would support a large dairy and stock industry. South of this clay loam and reaching across the county and covering the larger part of it, the soil is a sandy loam. The surface is characterized by

belts of ridges and steep billowy hills with basin-like depressions, swamps and small lakes. Boulders of all sizes are present. The trees of this region are mainly birch, basswood and hemlock. This soil is better adapted to corn and potatoes than to grasses and clover. In the southeastern part of the county the soil is a loamy clay, with a rolling surface. It is generally free from boulders and is very durable and productive ranking among the richest in the state. The chief crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	352	287
Oats	1,706	4,215
Barley	22	553
Hay	4,627	13,709

There are 4 cheese factories and 3 creameries in the county. The price of unimproved clay lands ranges from \$8 to \$12 per acre; of timber lands, from \$10 to \$20 per acre, and of improved farm lands, from \$20 to \$60 per acre. There are still over 400,000 acres of land in this county open to settlement. Merrill is the county seat. The population of the cities, villages and towns in 1905 is shown on the opposite page.

HEAFFORD JUNCTION.

Heafford, Junction, Lincoln Co., is an unincorporated village located at the junction of the "Soo" and C., M. & St. P. railroads, 275 miles from Milwaukee, 179 miles from La Crosse and 186 miles from St. Paul. Has good freight and passenger facilities. U. S. express. Telephone and telegraph.

This village is located in the lake region of Wisconsin and is destined to become a most popular summer resort. Berries of all kinds grow in abundance. The soil is a sandy loam. But little of the land suitable for farming purposes is improved. There is a good opening at this place for a general store.

HEINEMAN.

Heineman, Lincoln Co., is an unincorporated village of about 200 people, located on the C., M. & St. P. Ry. Has good freight and passenger facilities. Telephone and telegraph. U. S. Express.

Any industry such as the manufacture of furniture, spindle handles, etc. is best suited for this place. About a 100-horse water power can be developed. Wood is the principal fuel

LINCOLN COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Birch	96	281	194	475	474	1		3	85
Bradley	110	288	223	511	506		5	6	111
Corning	106	328	264	592	592				111
Harrison	91	308	203	511	511				170
King	37	78	72	150	150			3	29
Merrill	109	342	287	629	629			1	125
Merrill, city:									
ward 1	188	515	496	1,011	1,011				162
ward 2	139	343	313	656	656			9	211
ward 3	232	581	532	1,113	1,112	1		17	275
ward 4	427	1,039	1,001	2,061	2,060			10	373
ward 5	198	504	413	917	917			8	251
ward 6	324	838	807	1,745	1,745			4	333
ward 7	343	839	856	1,695	1,694	1			287
Total, city...9,197									
Pine River	189	643	543	1,186	1,186			4	204
Rock Falls	96	245	200	445	439		6		91
Russell	96	287	194	461	461			4	113
Scott	181	506	496	1,001	1,001			2	194
Schley	143	404	327	731	731				149
Somo	59	160	100	260	260				92
Tomahawk	56	236	114	350	350			3	151
Tomahawk, city:									
ward 1	73	321	143	464	464			2	185
ward 2	98	305	233	538	537	*1		1	169
ward 3	151	383	345	728	728			1	184
ward 4	187	472	424	896	896			1	176
Total, city...2,626									
Total	8,731	10,345	8,780	19,125	19,110	4	11	79	4,225

*1 Chinaman.

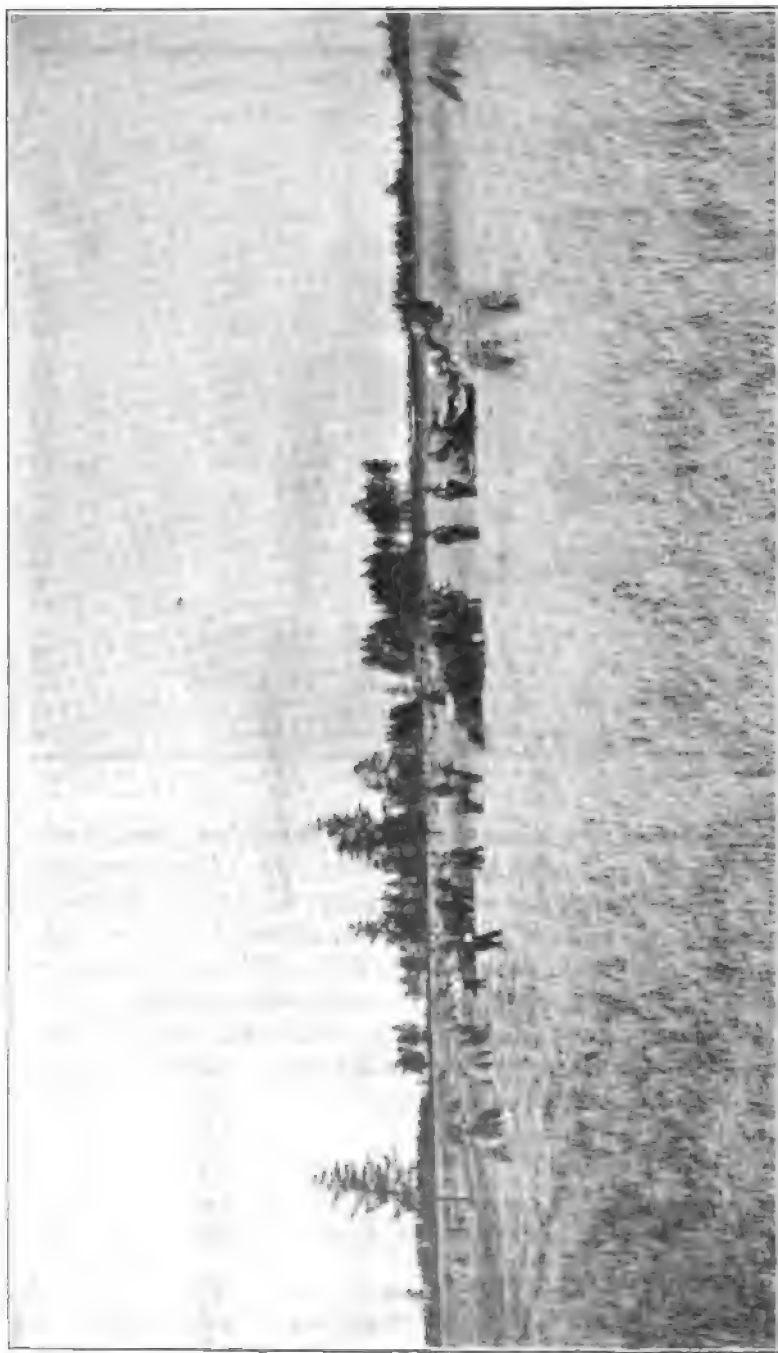
Such raw materials as small fruit, vegetables, clay, sand, stone, timber and iron can be supplied, and plenty of help procured. The village has 1 drug store, 1 grocery, 1 hardware, 2 general stores, one physician. The village is a summer resort town with natural parks, trout streams, lakes filled with other fresh water fish, with splendid hunting in the surrounding forests.

Only about one-tenth of the land surrounding this village suitable for farming purposes is improved. The soil is good but is somewhat stony and sandy.

MERRILL.

Merrill, Lincoln Co., is a city of 9,197 population, located on the C. M. & St. P. Ry., 247 miles from Milwaukee, 332 miles from Chicago and 151 miles to La Crosse. Has telephone and telegraph. U. S. Express. Good freight and passenger facilities.

Merrill is the third city in size in the north-eastern section of the state. Such raw materials as small fruit, vegetables, clay, sand, stone and timber can be supplied. Wood from the sur-



RIVERSIDE FARM NEAR TOMAHAWK.

rounding forests is the principal fuel. Plenty of laborers can be secured. A veneer plant, chair or other furniture factory, pail factory, and a paper mill are best suited for the place. The city is already supplied with an electric light plant, 3 banks, 7 drug stores, 20 groceries, 6 hardwares, 8 dry goods stores, 2 laundries, 4 hotels, 12 boarding houses, 6 saw mills, 2 sash, door and blind factories, 2 paper and pulp mills, 1 box factory, 1 pail factory, 1 tannery, 2 excelsior mills, 2 glove and mitten factories, a brewery, a foundry and machine shop, an excellent public school system, 4 weekly newspapers, 12 physicians, and 15 attorneys at law.

The city has fine macadamized, shady streets, cement sidewalks, first-class public buildings and can be made a very popular summer resort town. An electric railway is being constructed to connect this city with Wausau and Antigo.

About twenty per cent. of the lands of the surrounding country suitable for farming purposes are improved. Some of the land is rolling, a small portion swampy, some sandy and stony. The soil is a rich sandy loam and is excellent for general farming purposes.

TOMAHAWK.

Tomahawk, Lincoln Co., is a city of 2,629 inhabitants, located on the C. M. & St. P. Ry., the "Soo" Ry. and the Marinette, Tomahawk & Western Ry., which connects with the W. C. Is 268 miles from Milwaukee, 221 miles from Chicago and 193 miles to La Crosse. Has telephone and telegraph communications. Fairly good freight and passenger accommodations. U. S. and American Express.

A 6000 horse water power can be developed here. Wood for fuel is to be had from the surrounding country. Any kind of wood-working establishment is suitable for the place, and plenty of help can be secured. It is already supplied with an electric light plant, 2 banks, 3 drug stores, 9 groceries, 4 hardwares, 1 department store, 2 dry goods stores, 1 laundry, 2 hotels, several boarding houses, a splendid public school system employing 18 teachers, 4 physicians, 3 lawyers, several lumber establishments, a tannery, 2 printing offices and weekly newspapers, an excelsior mill, iron works, paper and pulp mill, a veneer and stave factory, and a city water works. There are many beautiful fresh water lakes near by and an ideal summer resort could be established.

Some of the best land in the state is to be had at a reasonable price near Tomahawk, only about one-tenth suitable for farming being improved.



LOGGING NEAR TOMAHAWK.

MANITOWOC COUNTY.

Manitowoc county is located in the east central part of the state on Lake Michigan. The area is 590 square miles. In 1905 the population of the county was 44,796, showing a gain of 2,535 over the census of 1900. One-fifth of the population is of foreign birth. Of this number nearly 60% are Germans. There are also large numbers of Bohemians and Poles. The county possesses an excellent soil for general agricultural purposes. The total farm area in 1905 was 350,854 acres, about 93% of the area of the county and embracing all the land which can be made tillable. Of this acreage 238,089 acres are improved. The total farm acreage and the amount of improved land in 1890 was 345,571 acres and 235,060 acres respectively. During the period from 1890 to 1905 the valuation of such lands, including improvements increased from \$13,330,660 to \$20,841,560. The surface of the county is somewhat diversified, being broken up into hills, ridges and prairies. The soil covering the larger part of the county is a heavy clayey loam derived from the red lacustrine clays. Stretching across the county from the north to the southwestern part is a belt of rich and fertile clayey loams of the medium and heavier varieties. This soil is well adapted to the growth of all farm products and supports with ease a large and growing dairy and stock raising industry. Along the lake shore and in the northeastern part of the county the soil is a light sandy loam. Throughout the county there occur occasional irregular deposits of humus soil composed largely of muck and peat. The principal crops of the county and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	38,675	7,150
Oats	31,945	39,795
Barley	9,880	30,795
Rye	11,414	20,099
Clover seed	2,590	6,192
Hay	46,975	59,928

There are 81 cheese factories and 20 creameries in the county. One of the principal industries is the canning of peas of which an immense amount is grown by the farmers and disposed of at

remunerative prices. There is very little unimproved land which can be made tillable, such land being found mostly in small tracts owned in connection with improved lands. The price for such lands averages about \$35 per acre. The prices for improved lands ranges from \$75 to \$100 per acre, and in some instances even higher. Manitowoc is the county seat. The following table shows the population of the various cities, villages and towns in the county in 1905:

MANITOWOC COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colord.	Indians.		
Cato	351	942	840	1,782	1,782	....	....	6	324
Centerville	360	772	681	1,453	1,453	....	....	18	282
Cooperstown	285	1,000	700	1,700	1,700	....	....	8	482
Eaton	262	692	640	1,332	1,332	....	....	8	190
Franklin	301	843	790	1,633	1,633	....	....	1	317
Gibson	269	753	704	1,457	1,457	....	....	11	279
Kossuth	361	1,025	881	1,906	1,906	....	....	8	403
Liberty	266	771	699	1,470	1,470	....	....	18	282
Manitowoc	171	896	404	800	800	....	....	2	132
Manitowoc, city:									
ward 1.....	445	1,079	1,048	2,127	2,125	*2	....	....	528
ward 2.....	308	631	719	1,350	1,343	7	....	....	271
ward 3.....	615	1,326	1,422	2,748	2,748	....	....	....	647
ward 4.....	391	868	906	1,774	1,774	....	....	....	419
ward 5.....	363	827	805	1,632	1,632	....	....	....	346
ward 6.....	199	420	424	844	844	....	....	....	180
ward 7.....	392	1,186	1,072	2,258	2,258	....	....	....	346
Total, city..12,733								55	....
Manitowoc Rapids	363	907	913	1,820	1,820	....	....	10	282
Maple Grove	212	647	532	1,179	1,179	....	....	4	249
Meeine	263	819	743	1,562	1,562	....	....	12	294
Mishicott	324	784	777	1,561	1,561	....	....	17	282
Newton	327	894	847	1,741	1,741	....	....	9	282
Rockland	228	705	598	1,303	1,303	....	....	6	293
Reedsville, village	121	245	270	515	515	....	....	3	85
Schleswig	276	728	687	1,415	1,415	....	....	5	273
Kiel, village	272	577	553	1,130	1,130	....	....	2	253
Two Creeks	107	324	283	607	607	....	....	2	116
Two Rivers	205	572	523	1,095	1,095	....	....	12	183
Two Rivers, city:									
ward 1.....	180	412	409	821	821	....	....	4	170
ward 2.....	146	365	359	724	722	*2	....	2	163
ward 3.....	188	438	461	899	899	....	....	5	156
ward 4.....	270	611	559	1,210	1,210	....	....	1	239
ward 5.....	194	468	450	918	918	....	....	2	198
Total, city..4,602								....	....
Total	8,955	23,027	21,769	44,796	44,785	11	....	231	8,831

*2 Chinamen.

CATO.

Cato, Manitowoc Co., is an unincorporated village of about 125 people, located on the C. & N. W. Ry., 175 miles from Chicago, 90 miles from Milwaukee, 37 miles from Sheboygan and 11 miles from Manitowoc. Freight and passenger facilities good. American Express. Telegraph and telephone.

Coal and wood are the fuels used. Such raw materials as fruit, vegetables, peas, sugar beats, clay, and sand can be supplied, and any amount of help procured. A canning factory or brick yard is best suited for the place. The village is supplied with 1 hardware store, a dry goods store, creamery, cheese factory, meat market, box factory, 2 hotels, 2 boarding houses, 1 physician and a graded school employing 2 teachers.

The land of the surrounding country is practically all improved. The soil is suitable for general farming purposes.

KIEL.

Kell, Manitowoc Co., is an incorporated village having a population of 1,130 inhabitants, located on the C., M. & St. P. Ry., 152 miles from Chicago, 67 miles from Milwaukee and 45 miles from Manitowoc. Has telephone and telegraph. Freight and passenger facilities good. U. S. Express.

There is a small undeveloped water power located here. Coal is shipped from Milwaukee. Such raw materials as fruit, vegetables, sand, and gravel can be supplied, and plenty of help procured. A canning factory is most suited for the place. The village is supplied with an electric light plant, city water-works, a bank, 2 drug stores, 3 hardwares, 3 general stores, livery stables, 2 barber shops, lumber and coal yard, wood and wire company, cheese box factory, table factory, cold storage plant, 2 millinery stores, 3 meat markets, a grist mill, 2 grain elevators, 2 hotels, 2 boarding houses, 3 physicians, a newspaper and a public school employing 7 teachers. The streets of the village are well kept, being wide and provided with plenty of shade trees and cement walk. The buildings are all substantially built.

The country surrounding this village is level. The soil is good and well adapted for general farming purposes.

MANITOWOC.

Manitowoc, Manitowoc Co. Population, 12,733. Located in a rich agricultural section bordering on Lake Michigan, 77 miles from Milwaukee and 162 miles from Chicago. C. & N. W. Ry. and Wisconsin Central Ry. Electric line to Two Rivers. Two car ferry systems. Seven lines of steamships. With the exception of Milwaukee, it has the best harbor on Lake Michigan. Telegraph and telephone. Street railway. Excellent water system. Electric light plant, gas plant. American and National Express companies.

Owing to the large number of carferries operating from this city, Manitowoc has been termed the "carferry city," the Pere

Marquette and the Ann Arbor railways each making it their western port. The former line has 6 large steamers in commission and the latter 4, each boat having a capacity of from 28 to 32 cars. Navigation is continued by these ferries during the entire year. There are daily boats from Manitowoc to the leading cities on Lake Michigan and the Erie and Lackawanna railways operate boats between this city and the east. Manitowoc is located at the narrowest part of the lake, thus offering the shortest route between the east and west. The city is also an important grain center, being the location of a large number of elevators. Large lake shipments of grain and flour are made to eastern ports with return cargoes of coal. Its lake clearances in 1905 were 1,743 vessels with a net tonnage of 1,953,015 tons.

Manitowoc has made rapid strides as a manufacturing center. In 1905 there were 76 manufacturing establishments with an aggregate capitalization of \$5,019,861, employing 1,321 wage-earners and having an annual product valued at \$4,427,816, the latter amount being an increase of nearly 129% over the product for 1900. The chief industries are ship building, manufacturing of agricultural implements, malt, furniture, gloves, knit goods, aluminum products, tools and boxes. The pea-canning industry has grown to large proportions, and Manitowoc peas have gained a national reputation. This city is located in Wisconsin's richest barley district making it a center for the production of high grade malt, which is shipped to many of the largest breweries in the country.

Such raw materials as clay, sand, stone and timber are near at hand. Additional labor can be secured from the surrounding country. There are no unoccupied factories. The city has many advantages as a summer resort. The Manitowoc Advancement Association is active in advertising the advantages of the city.

MISHICOTT.

Mishicott, Manitowoc county, is an unincorporated village of about 500 people, located 7 miles from the railroad station; has telephone.

The village has a small undeveloped water power. Coal is hauled from Two Rivers. Such raw materials as fruit, vegetables, clay, sand and hardwood timber can be supplied, and plenty of help procured. A canning factory is best suited for the place. This village is supplied with a drug store, 2 groceries,

hardware, 3 dry goods stores, 2 blacksmith shops, wagon shop, brewery, 2 flouring mills, 2 saw mills, shoe store, cigar factory, 2 meat markets, furniture store, 2 physicians, a dentist, lawyer, graded school, 4 hotels and 2 boarding houses.

Nearly all the land of the surrounding country suitable for farming purposes is improved. The soil is an excellent clayey loam, level, free from stone and swamps.

REEDSVILLE.

Reedsville, Manitowoc county, is an incorporated village of 515 inhabitants. Located on the C. & N. W. railroad, 179 miles from Chicago, 94 miles from Milwaukee, 41 miles from Sheboygan and 15 miles from Manitowoc. Excellent freight and passenger facilities. Has telephone and telegraph. American Express.

Wood and coal are the fuels used, the latter being shipped in. Such raw materials as fruit, vegetables, peas, clay, sand, peat, timber and stone can be supplied, and plenty of help procured. A canning factory is best suited for the place. The village has 1 grocery, 1 hardware store, 3 dry goods stores, tailor shop, cigar factory, 2 saw mills, shoe store, 2 meat markets, 3 blacksmith shops, 3 agricultural implement establishments, 2 hotels, 1 physician, 3 public schools and 2 parochial schools. A first class hotel is needed.

Nearly all of the land of the surrounding country suitable for farming purposes is improved. The soil is practically free from stone.

TWO RIVERS.

Two Rivers, Manitowoc county, is a city having a population of 4,000 inhabitants, located on the C. & N. W. railroad and a line of steamers. Is 171 miles from Chicago, 80 miles from Milwaukee, 33 miles from Sheboygan and 6 miles from Manitowoc. Has electric railway connections with other cities. Telephone and telegraph. Excellent freight and passenger facilities. American Express.

Coal is shipped in by water, wood by railroad. Raw materials can be procured at reasonable transportation rates. A metal or wood working establishment is best suited for the place. The city is supplied with an electric light plant, 2 banks, 2 drug stores, 8 groceries, 2 hardwares, a departments store, 8 dry goods stores, 2 laundries, a wire factory, aluminum novelty works, 1 printer's case and cabinet factory manufacturing wood type, printers' cases, dental chairs, office and railroad furniture, a Veneer Seat Co., a Wood Specialties factory, foundry, wagon works, brewery, 5 meat markets, 3 millinery stores, 2 confectionery establish-



TIMOTHY HAY FIELD NEAR KNOULTON. FARM HOME OF C. E. GUENTHERS.

ments, 2 clothing stores, 4 hotels, 3 boarding houses, 5 physicians, lawyers, a high school employing 25 teachers. The city is well provided with public and private parks, public halls, churches, excellent streets, walks and an abundance of shade trees. A weekly newspaper is published.

About ten per cent of the land surrounding the city is rough, with some stony land, some marshy, and a little sandy soil. The soil is a clayey loam and is well adapted for farming purposes.

MARATHON COUNTY.

Marathon county is located in the central part of the state. The area is 1,532 square miles, making it the largest county in the state. The population in 1905 was 50,249, a gain of 6,993 over the census of 1900. One-fourth of the population is of foreign birth, two-thirds of which are Germans. There are also large numbers of Poles and Canadians. The farm area in 1905 was 350,854 acres of which 238,089 acres were improved. In 1890 the farm area was 276,111 acres, of which 83,863 acres were improved. The value of the farms in 1905 including improvements was \$13,919,155, as against \$4,284,971 in 1890, showing a gain of \$9,634,184 or nearly 225% in 15 years. The topography of the county is gently rolling, but in places is irregular, consisting of ridge land areas trenched by the valleys of rivers and tributary streams. The soils in the eastern part of the county are clay loams varying to lighter loams. This soil is generally stony but where the lands are gently sloping, boulders are often almost entirely absent. The amount of stones is not enough to interfere permanently with cultivation. This soil is best suited to the growth of corn and potatoes. The central part of the county with the exception of an irregular area of level sandy soil bordering the Wisconsin river and extending a long way eastward, is a clayey loam mixed with a variable amount of small rock fragments. It is one of the most fertile soils in the Mississippi valley and is adapted to the growth of all the farm crops of the northwest. On account of the climate, rainfall and excellent drainage it seems best adapted to dairying and stock-raising. The thrifty condition of dairying is shown by the numerous creameries and cheese

factories found through this region. The hardier varieties of apples, cherries and plums can be grown if proper care is observed. In the northern and western parts of the county the soil is a heavy clay, making a good strong land, very productive and durable. Its excellent drainage and abundant crops of grasses and clover give promise of it becoming a wealthy dairy and stock growing region. Small grains and garden truck are easily grown. Irregular tracts of swamp land occur in the eastern and southern parts. The principal crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	6,851	5,382
Oats	18,553	37,246
Barley	912	6,082
Rye	2,177	2,245
Hay	34,619	63,259
Potatoes	2,426	5,680

In 1905 there were 33 cheese factories and 19 creameries in the county. While the pine has been nearly all cut, there is still considerable birch, basswood, elm, maple and some oak. The price of unimproved land ranges from \$8 to \$15 per acre. Improved land ranges from \$40 to \$100 per acre. The total present farm acreage is but 33% of the area of the county. Wausau is the county seat and largest city. The table on page 645 shows the population of the cities, towns and villages of the county in 1905.

ATHENS.

Athens, Marathon Co., is an incorporated village having 803 inhabitants, located on the Abbotsford & North-Eastern Ry., 15 miles from Abbotsford, 321 miles from Chicago and about 238 miles from Milwaukee. Telephone and telegraph. Good freight and passenger facilities. National Express.

Wood procured from the surrounding country is the principal fuel. The village has a good supply of water for household and manufacturing purposes. Such raw materials as small fruit, vegetables, clay, sand and an abundance of timber can be supplied. A furniture factory or other woodworking establishment is best suited for the place. Plenty of help can be secured. The village is supplied with an electric light plant, a bank, drug store, 4 groceries, 2 hardwares, 7 general stores, a clothing store, feed store, 2 meat markets, 1 jewelry store, a bakery, newspaper,

MARATHON COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Bergen	129	327	297	624	623	1	1	6	111
Berlin	169	521	498	1,019	1,019			8	187
Bern	77	237	196	433	433				72
Brighton	138	372	329	701	701			6	123
Cassel	184	611	517	1,128	1,128			1	195
Cleveland	260	769	699	1,468	1,468			2	284
Colby, city	59	124	141	265	265			5	44
Day	172	530	436	966	966			2	166
Easton	158	481	383	864	864				155
Eau Claire	146	421	356	777	777			3	119
Eldron	138	379	312	691	681		10	5	139
Emmet	155	449	416	865	865			3	166
Fleeth	72	227	185	412	412				76
Frankfort	126	370	287	657	657				124
Franzen	34	107	81	188	177		11	1	49
Halsey	89	288	267	555	555			1	110
Athens, village	161	476	386	862	862				230
Hamburg	156	480	462	942	942				165
Harrison	71	169	144	313	313			3	59
Hewitt	67	170	146	316	311		5		44
Holton	242	659	597	1,256	1,256			6	233
Hull	261	528	463	991	991			8	197
Johnson	157	466	394	860	860			4	160
Knowlton	94	263	247	515	515			2	85
Kronenwetter	94	260	251	511	511			2	78
Maine	196	640	545	1,185	1,185			2	199
Marathon	120	388	364	752	752			2	117
Edgar, village	166	367	386	753	753			1	160
Marathon, village	125	303	279	582	582			3	102
McMillan	195	649	523	1,072	1,072			4	136
McMillan, village	29	71	65	136	136			1	30
Mosinee	80	233	221	454	447		7	1	62
Mosinee, village	122	261	269	530	527		3	4	92
Norrie	206	642	520	1,062	1,062			6	159
Pike Lake	204	609	566	1,175	1,168		7		183
Plover	100	246	218	464	462		2	3	81
Rib Falls	143	422	392	814	814			2	141
Rietbrock	177	495	484	979	979				168
Ringle	79	254	171	425	425			1	100
Spencer	108	280	239	569	569			2	73
Spencer, village	82	146	165	311	311			15	63
Stettin	186	560	552	1,112	1,112			2	163
Texas	179	538	451	989	989			2	213
Brokaw, village	76	267	176	443	433				141
Wausau	180	553	545	1,098	1,098			3	158
Wausau, city:									
ward 1	291	885	953	1,838	1,837	*1		4	233
ward 2	294	788	690	1,468	1,468			2	373
ward 3	249	676	671	1,347	1,347			2	277
ward 4	235	508	539	1,047	1,047			13	206
ward 5	464	1,038	1,126	2,164	2,164			15	353
ward 6	303	803	736	1,539	1,539			5	293
ward 7	391	967	892	1,859	1,855	4		9	409
ward 8	359	866	853	1,719	1,719			4	293
ward 9	317	754	723	1,477	1,477				310
Total, city 14,458									
Wein	130	382	351	733	773				146
Fenwood, village	43	103	95	198	198				33
Weston	157	570	472	1,042	1,042			2	174
Schofield, village	141	387	357	744	744			1	157
Total	9,573	26,130	24,119	50,249	50,198	10	41	180	9,299

†Part in Clark county; total for city, 849.

*1 Chinaman.

restaurant, 2 hotels, 2 boarding houses, a public school employing five teachers, 2 physicians, and 1 lawyer. The streets are shady and well kept. Two parochial schools are located here. The village has a public park.

The soil in this vicinity is exceptionally good for farming purposes after the timber is cleared away. The land is level and practically free from stone and marshes.

COLBY.

See Clark Co.

EDGAR.

Edgar, Marathon Co., is an incorporated village of 753 population, located on the C. & N. W. Ry., 284 miles from Chicago, 190 miles from Milwaukee and 149 miles from Manitowoc. Freight and passenger facilities good. Telephone and telegraph. American Express.

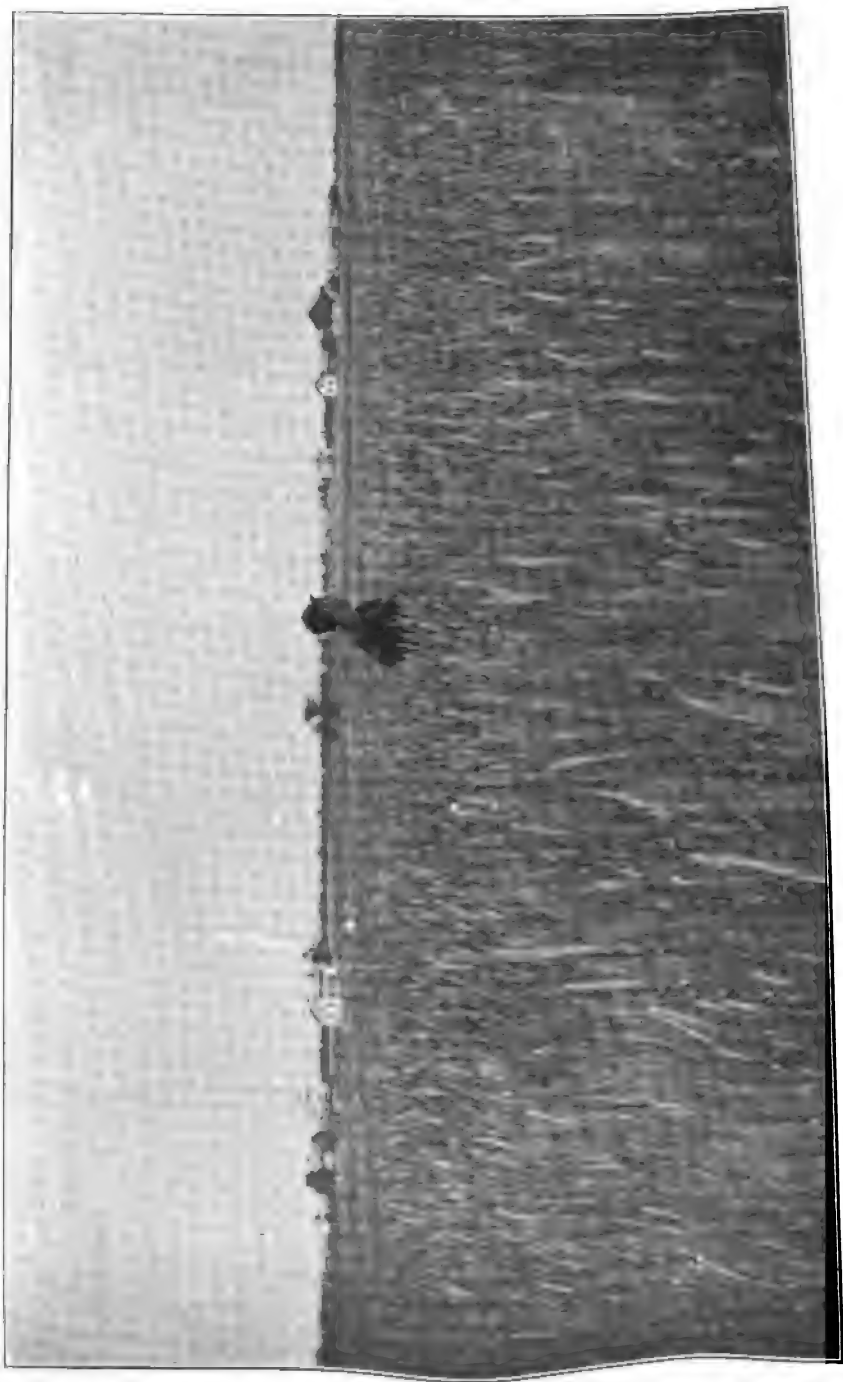
About 100 laborers can be secured for factory work. Wood is the principal fuel. Such raw materials as clay for brick and tile, timber and vegetables can be supplied; any establishment manufacturing box shooks, excelsior, clothes-pins, broom handles, etc., is best suited for the place. A flouring mill would probably do well here also. The village is supplied with a bank, drug store, 4 groceries, 2 hardwares, 4 general stores, 2 meat markets, 2 furniture stores, 1 millinery and confectionery establishment, a harness shop, 3 blacksmith and wagon shops, newspaper, and 3 boarding houses. A first class hotel is needed.

The land surrounding the village is good for farming purposes, about three-fifths of which is improved. There is some rolling land and considerable swampy land.

HATLEY.

Hatley, Marathon Co., is an unincorporated village of about 300 inhabitants, located on the C. & N. W. Ry., 250 miles from Chicago, 165 miles from Milwaukee and 16 miles from Wausau. Fairly good freight and passenger facilities. Telegraph. American Express.

The village has a small undeveloped water power. An abundance of good hardwood for fuel is supplied from the surrounding country. Plenty of labor can be secured. Such raw materials as stone and wood can be supplied and any industry utilizing these is desirable. A hardwood lumber mill would do well here. Hatley has 3 general stores, 1 hardware, 1 hotel and a boarding house. Another hotel is needed.



WHEAT FIELD NEAR KNOWLTON, WIS.

Only about one-fourth the land surrounding the village suitable for farming purposes is improved. About one-half the land here is level but stony; one-eighth marshy, and one-eighth sandy, but all can be made good farming land.

KNOWLTON.

Knowlton, Marathon Co., is an unincorporated village of about 300 people, located on the C. & N. W. Ry., 205 miles from Chicago, 210 miles from Milwaukee and 114 miles from La Crosse. Has good freight and passenger facilities. Telegraph and telephone. U. S. Express.

A water power can be developed here. Any amount of help can be secured for factory work. Such raw materials as vegetables, clay, sand, timber and stone can be supplied. A paper mill is best suited for the place. In close proximity to the village is a large tract of hemlock, estimated at 250 million feet.

The land surrounding the village is well adapted to general farming, only about one-tenth of which is improved. The unimproved land is on the market at a reasonable price.

MCMILLAN.

McMillan, Marathon Co., is an incorporated village of 136 people, located on the C. & N. W. Ry., 276 miles from Chicago, 198 miles from Milwaukee and 5 miles from Marshfield. Has telephone and telegraph. American Express.

Wood from the surrounding forests is the principal fuel. There is a small water power here that can easily be developed. Any establishment that can use such raw materials as small fruit, vegetables, clay, stone and timber is best suited for the place. The village is supplied with a grocery store and a boarding house.

The land of the surrounding country is the very best for general farming and stock raising, about one-half of which is improved.

MARATHON CITY.

Marathon, Marathon Co., is an incorporated village of 582 inhabitants, located on the C. & N. W. Ry., 273 miles from Chicago, 193 miles from Milwaukee, and 143 miles from Manitowoc. Has excellent freight and passenger facilities. Telephone and telegraph. American Express.

This place has an excellent undeveloped water power. About 200 laborers can be secured for factory work. Wood secured from the surrounding forests is the principal fuel. Such raw materials as fruit, vegetables, clay, sand, stone and timber can be supplied. A paper mill and general store are best suited for the place, but any establishment using timber as a raw material would probably do well here.

The village is supplied with an electric light plant, a bank, drug store, 4 grocery stores, 2 hardware stores, 4 general stores, 3 furniture stores, an excelsior mill, brewery, a saw mill, hotel, a park, good streets, a public school employing 7 teachers, and 1 physician.

The soil of the surrounding country is well adapted for farming purposes. The soil is comparatively free from stone, with some marshy land west of the village, and a little sandy soil along the river.

MOSINEE.

Mosinee, Marathon Co., is an incorporated village having 530 inhabitants, located on the C., M. & St. P. Ry., 300 miles from Chicago, 315 miles from Milwaukee and 119 miles to La Crosse. Telegraph and telephone. Good freight and passenger facilities. U. S. Express.

A splendid undeveloped water power is located here. Such raw material as small fruit, vegetables, clay, sand, stone and timber can be supplied, and 175 laborers procured. Wood obtained in the immediate vicinity is the principal fuel. The village is supplied with an electric light plant, 1 bank, a drug store, 5 general stores, a hardware, restaurant, hotel, harness shop, blacksmith and wagon shop, 2 furniture stores and undertaking establishments, 1 millinery store, 2 fruit and confectionery establishments, a public school system employing 5 teachers, a newspaper, 2 physicians and 2 lawyers. This village is among the most beautifully located in the state. A first class hotel would probably do well here.

The land of the surrounding country is well adapted for general farming, about one-fourth being improved.

NORRIE.

Norrie, Marathon Co., is an unincorporated village of about 250 inhabitants located on the C. & N. W. Ry., 246 miles from Chicago, 161 miles from Milwaukee and 78 miles from Oshkosh. Good freight and passenger facilities. Telephone and telegraph. American Express.

About 200 laborers can be secured in the village and the surrounding country for factory work. Such raw materials as small fruit, vegetables, clay, stone, sand and timber can be supplied. A brick yard or woodworking factory is best suited for the place. The village is supplied with 2 grocery stores, 1 general store, 1 hotel and a boarding house.

The land of the surrounding country is suitable for general farming purposes, one-third of which is improved. There is some marshy, stony and sandy land here.



SCENE NEAR WAUSAU, WIS.

SCHOFIELD.

Schofield, Marathon Co., is an incorporated village of 744 inhabitants, located on the C. M. & St. P. Ry., 309 miles from Chicago, 234 miles from Milwaukee and 128 miles from La Crosse. Has telephone and telegraph. Good freight facilities. Six passenger trains daily. U. S. Express.

A box factory or paper mill is most suitable for the place. Such raw materials as vegetables, sand, stone and timber can be supplied. All the help needed can be secured. The village is large enough to support a bank, drug store and a physician, although it is only three miles from Wausau. The village is provided with 2 general stores, 1 hotel and boarding house. Another hotel is desired.

The soil along the river and near the hills is sandy. About one-half the land suitable for farming is improved.

SPENCER.

Spencer, Marathon Co., is an incorporated village of 311 inhabitants, located on the W. C. Ry., 9 miles from Marshfield, 293 miles from Chicago and about 210 miles from Milwaukee. Has good freight and passenger facilities. Telephone and telegraph. National Express.

Wood from the surrounding country is the principal fuel. Such raw materials as small fruit, vegetables, clay, sand, peat, stone and timber can be supplied and a sufficient supply of labor secured. A canning or woodworking factory is best suited for the place. The village is supplied with 2 drug stores, 4 grocery stores, 2 hardware stores, 3 general stores, 2 hotels, 1 boarding house, 1 furniture store, 2 meat markets, a graded school employing 5 teachers, 2 physicians and one lawyer.

The soil of the surrounding country is first class for general farming purposes. About one-fourth the land is improved and is practically free from stone, swamps and sand.

UNITY.

Unity, Marathon Co., is an unincorporated village of about 450 people located on the W. C. Ry., 299 miles from Chicago, 166 miles from St. Paul and about 216 miles from Milwaukee. Telephone and telegraph. Good freight and passenger accommodations. National Express.

Such raw materials as small fruit, vegetables, clay, sand, stone, and an abundance of timber can be supplied. A broom handle, woodenware, or canning factory is best suited for the place. Plenty of help can be secured. Wood from the immediate vicinity is the principal fuel. An electric light plant run in connection with some factory would pay a fair income on

money invested. A bank could be made to pay a fair income also. The village is supplied with a drug store, 4 general stores, 2 hardware stores, a department store, 3 hotels, 1 boarding house, a public school employing 5 teachers, and 1 physician. A weekly newspaper is published.

About one-third the land in this vicinity suitable for farming purposes is improved. The soil is excellent for general farming. The land is level, but little stony, swampy or sandy.

WAUSAU.

Wausau, Marathon Co. Population, 14,453. Located near the geographical center of the state, 171 miles from Madison, 228 miles from Milwaukee. C., M. & St. P. Ry., and C. & N. W. Ry. Electric railway system to connect with Merrill under construction. Water-works system. Gas and electric light plant. Telephone connection. Western Union telegraph. American and United States Express companies.

Wausau is the commercial center of a large part of northern Wisconsin and is the metropolis of the Wisconsin river valley. The surrounding country is yet very scantily settled but the soil, most of which is of a very high native fertility, is inviting a desirable quality of immigrants and resulting in the rapid commercial growth of the city. Wausau is today the center of the lumber industry, being the location of four large saw mills, while many times that number are found in the territory adjacent. There are many excellent water powers in and about the city, some of which are as yet undeveloped and would furnish power for several large manufacturing establishments. Owing to this great power, which can be developed at a comparatively reasonable cost, enabling Wausau to furnish power at a very low rate, this city is destined to become an important milling and manufacturing center. Its manufacturing establishments in 1905 numbered 58, with an aggregate capitalization of \$3,815,163, employing 1,945 wage-earners and with a total output of \$4,644,457, exceeding many of the larger cities in the state. During the last five years its manufacturing capital has increased 37.6 per cent, number of employes 13.3 per cent, and annual product 37.4 per cent. Its principal products are lumber, sash and doors, veneer, sand paper, leather, boxes and malt liquors.

Owing to the proximity to the pine and hardwood forests, Wausau is well located for the manufacture of agricultural implements, vehicles and paper. Excellent granite is found near the city. Vegetables can be grown for canning factories.

MARINETTE COUNTY.

Marinette county is located in the northeastern part of the state on the Menominee river. The area is 1,396 square miles. The population in 1905 was 33,730, a gain of 2,908 over the census of 1900. Nearly one-third of the population is foreign born, Canadians, Germans and Swedes predominating, but there are also large numbers of Norwegians and Poles. Marinette county is still the seat of a great lumbering industry, and only a comparatively small amount of the available land of the county has been brought under cultivation. The total area of the farms in 1905 was 164,398, of which only 60,257 acres were improved. This total acreage is less than 25% of the tillable land of the county. Most of the present development has been the work of the last decade. In 1890 the farm area was but 58,451 acres, of which only 22,591 acres were improved. The valuation of the farms including improvements, increased from \$1,202,170 in 1890 to \$4,040,736 in 1905, of 236% in fifteen years. The northern and central portions of the county have a rough and rugged surface. The southern part of the county bordering on Green Bay is low and marshy. The soil of the county is very diversified. The southern third of the county is largely clayey loam, with the exception of the tract north of Peshtigo Harbor, which is sandy. The northern two-thirds of the county is largely sandy or a sandy loam. A small belt in the western part of the county and another in the northeastern part have a soil of clayey loam. Numerous irregular tracts of humus soils are found throughout the county. The chief crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	850	1,556
Oats	3,777	11,407
Rye	515	1,200
Corn	342	1,171
Hay	9,086	17,914

Very little has yet been done with the dairy industry, although much of the soil is well adapted to such use. The

more general adoption of dairying by farmers of this county will mean a steady and remunerative income to the community. The immense tracts of cut-over lands in this and other northern counties, offer an excellent opportunity for sheep breeding for the purpose of cleaning the land and for its enrichment. By the establishment of beet sugar factories in the north, many farmers are turning their attention to this new industry and with excellent results. Unimproved cut-over lands can be purchased at from \$5 to \$12 per acre according to quality and the amount of wood remaining on the land. Improved farms range from \$30 to \$75 per acre, the price in each case depending upon location and quality of soil. Marinette is the county seat. The following table shows the population of the local political divisions:

MARINETTE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Amberg	475	1,723	1,679	2,802	2,762	....	40	3	780
Athelstane	86	268	191	299	337	....	2	6	63
Beaver	198	583	561	1,144	1,144	....	....	2	192
Coleman, village	86	230	216	466	466	....	....	....	100
Dunbar	185	473	335	748	738	....	10	1	153
Grover	394	1,184	1,008	2,192	2,192	....	....	4	389
Lake	63	265	188	453	450	3	....	3	106
Marinette, city:									
ward 1.....	541	1,360	1,302	2,662	2,662	....	....	8	478
ward 2.....	618	1,559	1,574	3,173	3,173	....	....	8	552
ward 3.....	676	1,681	1,695	3,376	3,371	....	6	9	603
ward 4.....	673	1,670	1,636	3,306	3,287	*5	14	7	677
ward 5.....	547	1,424	1,413	2,837	2,771	....	66	16	575
Total, city.....	15,354								
Peshigo	242	720	622	1,352	1,350	....	2	1	214
Peshigo, city:									
ward 1.....	139	436	361	797	797	....	....	....	250
ward 2.....	170	392	418	810	810	....	....	....	121
ward 3.....	166	494	433	932	932	....	....	....	217
Total, city.....	2,539							19	....
Porterfield	287	845	636	1,481	1,481	....	....	4	285
Pond	544	1,048	970	2,018	2,018	....	....	3	319
Stephenson	192	536	487	1,053	1,053	....	....	5	174
Wausaukee	545	905	823	1,729	1,729	....	....	17	319
Total	6,420	17,777	15,953	33,730	33,582	8	140	107	6,572

*4 Chinamen.

AMBERG.

Amberg, Marinette Co. Population, 500. An unincorporated village on the C., M. & St. P. Ry., and on Pike river, in the northeastern part of the county, 40 miles northwest of Marinette, 9 miles from Wausaukee the nearest banking point, 23 miles from Iron Mountain, Mich., 134 miles from Milwaukee and 200 from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

This village is supplied with 3 general merchandise stores, 2 hotels, 3 boarding houses, graded school employing 3 teachers, Catholic and Presbyterian churches, 2 blacksmith shops, 1 shoe and harness shop, meat market, 3 granite works, a monument shop and a saw mill.

There is a fine undeveloped water power one-half mile from the railway station which can be utilized for manufacturing. Wood for fuel is obtained from the adjacent country. Vegetables can be furnished for canning. The natural products comprise sandstone and granite, also a marl bed 5 miles distant and silica sandstone 12 miles distant. A limited amount of help can be secured.

About 40 per cent of the surrounding country is sandy and 10 per cent swampy. Only about 5 per cent of the land suitable for crop raising is improved. Sheep raising, dairying and potato growing will be the farming specialties in this section.

COLEMAN.

Coleman, Marinette Co. Population, 466. An incorporated village on the C. M. & St. P. Ry., in the southern part of the county, 32 miles (by rail) from Marinette, the county seat, and banking point; 42 miles north of Green Bay, 150 miles from Milwaukee and 237 miles from Chicago. United States Express. Telephone and telegraph. Fairly good shipping facilities and passenger service.

The village has an electric light plant. 1 drug store, 2 hardware and 4 general merchandise stores, laundry, 2 hotels, 1 boarding house, graded school, 3 teachers employed, a physician, 1 lawyer, meat market, 3 blacksmith shops, sawmill, planing mill, lath and shingle mill.

Steam power is used and wood is the fuel. Vegetables can be furnished for canning. Clay, sandstone and timber are the natural products. There is plenty of help here.

The surrounding country is level and free from stone and only about 75 per cent improved. The village needs a first class hotel, and will offer good inducements for a canning factory or wood-working factory.

CRIVITS.

Crivitz, Marinette Co. Population, 200. An unincorporated village on the C. M. & St. P. Ry., 20 miles northwest of Marinette the county seat, 50 miles north of Green Bay, 164 miles from Milwaukee and 249 miles from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

Is supplied with electric light plant, 3 grocery stores, 2 hardware and 3 general stores, 3 hotels, graded school employing 2 teachers, 1 physician, meat markets, blacksmith shops, pulp mill, planing mill, Catholic church, and an opera house.

A water power here of 2,000 H. P. not utilized is worth considering. Plenty of wood in the surrounding country insures cheap fuel. Fruit and vegetables can be furnished for canning. Clay, sand, lime stone, small pine and hemlock timber are the natural products. Some help can be secured. The village is a summer resort. Good lake and trout fishing in the vicinity. Good location for a canning factory using peas and beans, or a pickle salting station.

The surrounding country is good for farming and only about 1-10 of the land suitable for crop raising is improved.

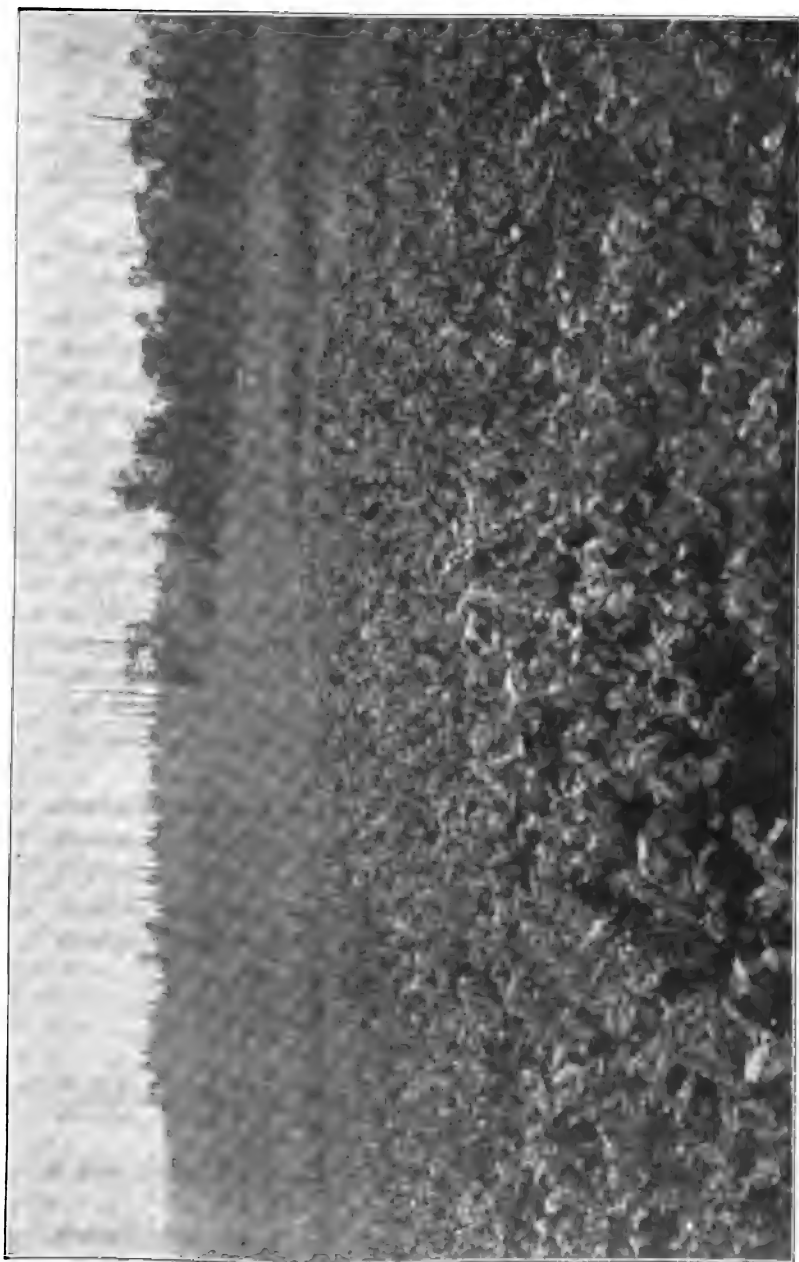
DUNBAR.

Dunbar, Marinette Co. Population, 500. An unincorporated village located on M. St. P. & S. Ste. M. Ry., and the Dunbar & Wausaukee Ry., the latter connecting with the C. M. & St. P. Ry., at Girard Jct. It is 59 miles northwest of Marinette, and 24 miles from Iron Mountain, Mich., the nearest banking point. Western Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is supplied with 1 general store, 1 hotel, 1 physician, graded school employing 5 teachers, and good church privileges. The village is a nicely laid out lumber town, has sidewalks and no saloons. It is located in the extreme northern part of the county.

Wood is used for fuel. Brick clay, sand, granite and hardwood timber are the natural products. This is a good location for a pressed brick and tile factory, as the clay is claimed to be the best in the state for this purpose. The large amount of hardwood timber makes this a fine location.

The surrounding country is good for farming and only a small portion of the land suitable for crop raising is improved.



BEETS, OATS, AND CORN, NEAR MARINETTE, WIS.

MARINETTE.

Marinette, Marinette Co. Population, 15,354. 184 miles from Milwaukee, 267 miles from Madison and 269 miles from Chicago. C. & N. W. R. R.; C. M. & St. P. R. R. and the Mich. & Wis. R. R. The Ann Arbor R. R. operates a car ferry from this port to connect with eastern lines. The harbor is one of the best on Green Bay. The Lackawanna line of steamers make regular trips between Marinette and Buffalo. Other steamship companies operating boats from here to Lake Michigan and Green Bay ports are the Goodrich Transportation Co., the Barry line, the Green Bay Transportation Co., the Waggoner & Roulett and the Hill lines. Electric railway operates in this city and in Menominee, Mich., on the opposite side of the river. Water works. Gas and electric plants. American and United States Express. Telegraph and telephone. County seat.

Marinette is located on Green Bay at the mouth of the Menominee river, one of the finest water power streams in the state. One thousand five hundred horse power furnished by the dams at this point is not yet utilized and there are several excellent power sites within a reasonably short distance. By reason of its excellent shipping facilities, undeveloped water powers, nearness to the iron mines, reasonable coal shipping rates and the immense forests in the rear, Marinette offers excellent advantages to the manufacturer, sand, clay, timber, iron, sandstone and granite can be obtained in abundance. Plants for the manufacture of agricultural implements, woodenware and machinery are especially desired. In 1905 there were 37 factories here, with a capitalization of \$3,283,598, employing 1,645 men and having a total output of \$3,633,399. The chief products are lumber, shingles, sash and doors, boxes, paper and pulp and agricultural implements. There is one unoccupied factory which was formerly used for a machine shop and foundry.

Marinette has 16 physicians and 14 lawyers and 70 teachers employed in the public schols. There are 18 hotels of various sizes and 9 boarding houses, furnishing accommodations for 600 persons. A Chatauqua Assembly holds sessions each summer near this city. The Marinette Chamber of Commerce is actively engaged in the industrial development of the city.

MIDDLE INLET.

Middle Inlet, Marinette Co. Population, 100. A village on the C. M. & St. P. Ry., in Peshtigo township, 25 miles northwest of Marinette and 6 from Wausau-kee the nearest banking point. United States Express. Telegraph and telephone. Fairly good shipping facilities and passenger service.

Has 2 general stores, a public school, blacksmith shop and a saw and shingle mill.

Wood is used for fuel obtained from the surrounding forests. The village can be supplied with plenty of sand, stone, timber and granite.

The surrounding country is suitable for farming and only about 20 per cent of the land is improved.

NIAGARA.

Niagara, Marinette Co. Population, 1,000. An unincorporated village in Amberg township, 60 miles north of Marinette the county seat, 8 from Iron Mountain, Mich., the nearest banking point and $3\frac{1}{2}$ from Quinnesec, Mich., its shipping point.

This village has a telephone system, 2 grocery stores, a dry goods and boot shoe store, 1 general store, graded public school employing 8 teachers, Catholic and Methodist churches, 2 hotels, 1 boarding house, 1 physician, 1 dentist, a photographer, a newspaper, tailor shop, meat market, barber shop, and paper mill.

There is an undeveloped water power here. Wood is used for fuel and is obtained in the vicinity. The natural products are sand, building stone and timber. Help can be secured in the village.

About 20 per cent of the surrounding country is level and free from stone, 10 per cent swampy and 10 per cent sandy. Very little of the land suitable for crop raising is improved.

PEMBINE.

Pembine, Marinette Co. Population, 400. An unincorporated village located at the junction of the C. M. & St. P., and the M. St. P. & S. Ste. M. Ry's., 49 miles from Marinette, the county seat, 14 miles from Iron Mountain, Mich., the nearest banking point, 193 miles from Milwaukee and 270 miles from Chicago. United States and American Express. Telegraph and telephone. First class shipping facilities and passenger service.

The village has 2 general stores, 4 hotels, 3 boarding houses, graded school employing 2 teachers, and is a summer resort.

A water power not utilized estimated at 5,000 horse power can be developed. Has an abundance of wood for fuel and timber enough within a radius of 10 miles to supply a box factory for 20 years. Any amount of help can be secured in the vicinity.

The adjacent country is rough and only about 10 per cent of the land suitable for crop raising is improved. There is plenty of small soft wood timber on the cut-over lands and a large amount of hardwood.

PESHTIGO.

Peshtigo, Marinette Co. Population, 2,539. An incorporated city located in the southeastern part of the county on the C. & N. W. Ry., and Wis. & Michigan Ry., 7 miles from Peshtigo Harbor on Green Bay. It is 7 miles from Marinette, the county seat, 13 miles from Oconto, 170 miles from Milwaukee and 265 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service good.

The city has a system of water works, is lighted by electricity, has a bank, 2 drug stores, 4 grocery stores, 2 hardware

and 2 general merchandise stores, a laundry, 5 hotels, 3 boarding houses, good public schools employing 16 teachers, churches of the leading religious denominations, 2 physicians, 2 restaurants, 1 millinery store, opera house, flour, saw and planing mills and a creamery. A weekly newspaper is published.

There is a water power here all utilized. There is an abundance of cheap fuel consisting of slabs and all kinds of hard and soft wood timber. Fruit and vegetables can be furnished for canning. Sand and timber are the natural products. Plenty of help can be secured to work in factories. There is a splendid opening here for a furniture factory.

About one-half of the surrounding country suitable for crop raising is improved. 20 per cent of the land is swamps, 20 per cent stony, 10 per cent sandy.

POUND.

Pound, Marinette Co. Population, 350. An unincorporated village on the C. M. & St. P. Ry., in the southern part of the county, 30 miles from Marinette, the county seat, and banking point, 154 miles north of Milwaukee and 239 miles from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village has 4 general merchandise stores, 1 hardware store, furniture store, 2 hotels, graded school employing 3 teachers, 3 churches, 1 physician, 2 blacksmith shops, 2 barber shops, 1 flour mill and a saw mill.

Steam power is used here, but plenty of timber near by supplies the fuel at reasonable prices.

The natural products are clay, sand and timber. A limited amount of help can be secured in the village and adjacent country. There is a good opening here for woodenware factory.

About one-third of the land surrounding the village suitable for crop raising is improved. Soil is a sandy loam and clay.

WAGNER.

Wagner, Marinette Co. Population, 200. An unincorporated village on the Wisconsin & Michigan Ry., in the eastern part of the county, 19 miles north of Marinette, 26 miles from Peshigo Harbor from which point shipping can be sent by way of Sturgeon Bay and Lake Michigan water routes. American Express. Telegraph connections.

Has one grocery store and 1 general merchandise store, 2 boarding houses, graded school employing 2 teachers. A good hotel is needed.

Steam power is used but there is plenty of wood for fuel in the adjoining country. Fruit and vegetables can be supplied as raw material, and clay, sand, stone and timber are the natural

products. Some help can be secured. A good opening here for a small factory using timber products.

About one-fourth of the land suitable for crop raising in the surrounding country is improved. The soil is a clay loam, a very small portion sandy or swampy and most all of it level and free from stone.

MARQUETTE COUNTY.

Marquette county is located in the south central part of the state. The area is 451 square miles. The population in 1905 was 10,974, a gain of 451 over the census of 1900. The number of foreign born equals about one-sixth of the total population consisting almost entirely of Germans. It is exclusively an agricultural county. The total farm area in 1905 was 258,170 acres, of which 113,858 acres were improved land. Practically all the tillable land is occupied. The value of the farms in 1905, including improvements was \$5,407,058, as compared with a valuation of \$2,726,740 in 1890, a gain of nearly 100 per cent in 15 years. With few exceptions the soil covering the county is a sandy loam. It is a warm and easily worked soil, and rather fine in texture. It is of the same nature as the soil of Waupaca and Waushara counties where it has yielded most excellent results both as to quality and quantity, with potatoes and small fruits. On account of its light and open texture, and relatively small water capacity it is not best suited to hay or grain and in the line of animal husbandry is better suited for sheep and hogs than to dairying on an extensive scale. Wherever there is proximity to an adequate water supply, which is quite common in this county, and the lay of the land is suitable, this soil is well adapted to irrigating for small fruits, potatoes and market gardening. There are numerous areas of humus soil in different parts of the county. The chief crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	5,255	1,400
Oats	10,234	13,167
Rye	16,997	19,547
Corn	15,784	17,156
Clover seed	5,804	5,983
Hay	26,055	26,176
Potatoes	1,512	4,109

There are 12 creameries in the county. The price of unimproved land ranges from \$10 to \$25 per acre. For improved land the range of prices is from \$25 to \$60 per acre. Montello is the county seat. The population of the towns, cities and villages of the county in 1905 was as follows:

MARQUETTE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Buffalo	162	433	368	801	801	.....	.....	7	169
Crystal Lake	97	276	274	550	550	.....	.....	1	103
Douglas	142	380	334	714	714	.....	.....	8	129
Harris	115	278	273	551	551	.....	.....	2	102
Mecan	120	315	303	618	618	.....	.....	2	91
Montello	91	223	209	432	432	.....	.....	8	77
Montello, village	287	535	535	1,070	1,070	.....	.....	15	161
Moundville	158	32	337	657	656	1	.....	10	121
Neshkoro	159	416	395	811	811	.....	.....	6	144
Newton	107	296	273	569	569	.....	.....	2	90
Oxford	105	372	326	698	698	.....	.....	9	111
Packwaukee	196	452	398	850	850	.....	.....	15	170
Shields	117	320	297	617	617	.....	.....	7	100
Springfield	137	341	336	677	677	.....	.....	4	102
Westfield	116	293	228	521	521	.....	.....	3	122
Westfield, village	193	407	411	818	818	.....	.....	17	153
Total	2,287	5,657	5,317	10,974	10,973	1	.....	116	1,949

GERMANIA.

Germania, Marquette Co., is an unincorporated village having about 120 inhabitants. Located 6 miles from Neshkoro, the nearest railroad station.

Wood, is the principal fuel. A small undeveloped water power is located here. Vegetables, clay and sand can be supplied and some help procured. A flour mill is best suited for the place. There is a grocery, a dry goods and one hardware store, and a hotel located at this place.

The soil of the surrounding country is a sandy loam and is excellent for general farming purposes. The land is all improved.

MONTELLO.

Montello, Marquette Co., is an incorporated village of 1,070 inhabitants. Located on the Wisconsin Central Railroad, 63 miles from Stevens Point, and 8 miles from Portage. Telegraph and telephone. Good freight facilities. National Express.

Coal, shipped from Illinois and Pennsylvania, is the principal fuel used. Such raw materials as fruit, vegetables, sand, stone,

and some timber can be supplied, and about forty laborers procured. A canning factory is best suited for the place. It is supplied with an electric light plant, 2 banks, 1 drug store, 6 groceries, 2 hardwares, 4 general stores, 2 furniture stores, 1 jewelry store, a restaurant, 3 hotels, 3 physicians, 2 lawyers and a public school employing 7 teachers. A weekly newspaper is published. The town is a summer resort.

The country surrounding the village is rolling and has a somewhat sandy soil, and some marshy land. About forty per cent of the land suitable for farming purposes is improved.

NESHKORO.

Neshkoro, Marquette Co., is an unincorporated village of about 325 people. Located on the C. & N. W. Railroad, 194 miles from Chicago, 109 miles from Milwaukee and 132 miles from Janesville. Has good freight and passenger facilities. Telegraph and telephone. American Express.

A two hundred horse water power can be developed here. Such raw materials as fruit, and vegetables can be supplied in the immediate vicinity, and others can be shipped in by railroad at a very reasonable freight rate. Any amount of help can be procured. The village is supplied with 6 grocery stores, 2 hardwares, 6 general stores, 6 dry goods stores, a graded school, 1 physician and 2 hotels. This place can be made a summer resort town. A first-class hotel is needed.

The surrounding country is excellent farming land and is practically all improved. The land is somewhat swampy and sandy, but not stony.

OXFORD.

Oxford, Marquette Co., is an unincorporated village of about 250 inhabitants. Located about 6 miles from Packwaukee; has telephone communications.

This place has a 1,300 horse water power that can be developed. Wood is the principal fuel. Such raw materials as apples, small fruit, vegetables, clay, sand, and marl can be supplied, and plenty of help procured. A meat market and canning factory are best suited for the place. The village is supplied with 2 drug stores, 4 groceries, 2 hardwares, 2 general stores, barber shop, 2 blacksmith shops, a wagon shop, hotel, boarding house, 2 physicians and a graded school. A first class hotel is needed.

The surrounding country is most excellent for farming purposes; about three-fourths of the land suitable for this purpose are improved. The soil is clayey loam, but little stony or swampy.

PACKWAUKEE.

Packwaukee, Marquette Co., is an unincorporated village of about 350 people. Located on the Wisconsin Central Railroad 56 miles from Stevens Point and 15 miles from Portage. Telegraph and telephone. Good freight and passenger facilities. National Express.

Wood, procured from the surrounding country is the principal fuel. Such raw materials as fruit, clay, stone and small timber can be supplied, and a sufficient amount of help for a small factory can be secured. A starch or canning factory is best suited for the place. The village has a good supply of water for household purposes. It is already supplied with an electric light plant, drug store, 3 groceries, 2 hardwares, 3 drygoods stores, a potato warehouse, grain elevator, furniture store, a harness shop, barber shop, meat market, lumber yard, millinery store, machine and blacksmith shop, hotel, boarding house, 2 restaurants, 2 physicians and a graded school. The place is a summer resort town. Another hotel is desired. Buffalo lake is in close proximity of the village. The city has plenty of shade trees and many fine residences, churches, and a public park.

The surrounding country is level and the soil is but little stony, swampy, or sandy; about fifty per cent of the land suitable for farming purposes is improved.

WESTFIELD.

Westfield, Marquette Co., is an incorporated village of 818 inhabitants. Located on the Wisconsin Central Railroad 46 miles from Stevens Point and 25 miles from Portage. Telegraph and telephone. Good freight and passenger facilities. National Express.

This village has some undeveloped water power. Such raw materials as fruit, vegetables, clay, sand, timber and stone can be supplied, and some help procured. A canning factory and machine shop is best suited for the place. It is also supplied with an electric light plant, a bank, drug store, 6 groceries, 2 hardwares, 6 drygoods stores, 2 physicians, a newspaper, a lawyer and a graded school employing 6 teachers. It also has well-paved streets, and plenty of maple, elm and box elder shade trees.

The soil in this vicinity is very good for general farming purposes and but little stony, sandy or swampy. About two-thirds of the land suitable for farming purposes is improved.

MILWAUKEE COUNTY.

Milwaukee county is located in the southeastern part of the state, bordering on Lake Michigan. It is one of the smallest counties in the state, having an area of 228 square miles. The population in 1905 was 363,721, a gain of 33,704 over the census of 1900. Of this large population, 312,948 persons reside in the city of Milwaukee. Owing to the great urban growth, the acreage devoted to agricultural purposes has decreased from 124,752 acres in 1890, to 112,839 acres in 1905. The valuation of such lands including improvements has decreased from \$27,622,303 in 1890, to \$22,947,130 in 1905. Of the total farm area, 87,299 acres are improved. The surface of the county is generally level except where valleys have been cut by stream erosion. The soil of the county in the northeastern part is a heavy clayey loam derived from red locustrine clays. Covering the remaining part of the county the soil is a clayey loam of the medium and heavy varieties, which is regarded as one of the most fertile soils in the state and excellently adapted to general farming, dairying and stock raising. In the southwestern part of the county the soil shades into a light clayey loam. There are a few irregular areas of humus soils near the southern boundary. The leading farm products and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	15,182	15,813
Barley	10,269	5,633
Corn	5,483	7,725
Hay	31,137	30,760
Potatoes	5,188	5,246

Owing to the excellent market afforded in the city of Milwaukee, a large part of the county has been devoted to truck farming and market gardening. The dairy interests are not very strong, there being only 3 creameries and 1 skimming station. In the western part of the county considerable acreage is devoted to the raising of sugar beets. The county being very small and the suburban settlements extending long distances from the center of the city of Milwaukee, land values naturally have a very wide range, the price varying from about \$75 per acre for ordinary

farm lands, to over several hundred dollars per acre nearer the city. Milwaukee is the county seat. The following table shows the population statistics of the cities, villages and towns in the county in 1905:

MILWAUKEE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Franklin	351	938	815	1,753	1,753			4	342
Granville	427	1,113	996	2,114	2,114			7	426
Greenfield	1,322	3,245	3,103	6,348	6,348			19	1,247
West Allis, vil.	453	1,184	1,122	2,306	2,306			13	562
Lake	1,253	3,922	3,307	7,229	7,229			13	1,891
Cudahy, vil.	474	1,481	1,076	2,556	2,556			5	764
Milwaukee	909	2,563	2,382	4,945	4,936	9		14	962
E. Milwaukee, vil.	102	246	227	473	473			3	88
N. Milwaukee, vil.	276	673	563	1,236	1,236				316
Whitefish B., vil.	114	267	260	527	527			2	88
Milwaukee, city:									
ward 1.....	2,000	4,118	5,149	9,267	9,218	49		32	1,791
ward 2.....	2,214	4,760	4,487	9,237	9,122	115		9	2,247
ward 3.....	1,060	2,950	2,444	5,394	5,354			12	1,539
ward 4.....	2,239	5,148	4,474	9,622	9,273	*349		33	3,121
ward 5.....	2,087	5,485	4,448	9,933	9,933			14	2,939
ward 6.....	2,949	6,498	6,455	12,953	12,933	20		38	2,965
ward 7.....	1,303	2,937	3,539	6,526	6,447	79		17	1,611
ward 8.....	2,608	5,186	5,245	10,431	10,430	1		24	2,341
ward 9.....	4,296	8,913	8,712	17,625	17,619	6		28	3,938
ward 10.....	4,070	8,403	8,627	17,030	17,027	3		21	3,640
ward 11.....	4,721	11,815	11,757	23,572	23,570	2		18	4,825
ward 12.....	2,630	6,775	6,244	13,019	13,016	3		13	2,997
ward 13.....	3,996	8,960	9,324	18,304	18,303	1		25	3,642
ward 14.....	3,948	13,088	12,212	25,300	25,299	1		4	4,824
ward 15.....	3,473	6,774	7,849	14,623	14,623			36	3,191
ward 16.....	2,387	5,238	5,982	11,220	11,220			32	2,373
ward 17.....	2,427	6,029	5,797	11,826	11,826			26	2,536
ward 18.....	3,063	7,117	8,366	15,483	15,467	16		6	2,927
ward 19.....	2,662	5,891	6,027	11,918	11,918			17	2,570
ward 20.....	4,370	10,366	10,045	20,411	20,401	10		23	3,910
ward 21.....	3,189	7,965	7,829	15,794	15,789	5		3	2,685
ward 22.....	2,892	6,762	6,704	13,466	13,466			9	2,674
ward 23.....	2,221	5,114	4,920	10,034	10,034			33	2,198
Total	312,948								
Oak Creek	359	1,078	879	1,957	1,957			5	477
S. Milwaukee, city:									
ward 1.....	268	516	496	1,012	1,012				
ward 2.....	239	614	533	1,147	1,147				
ward 3.....	374	997	844	1,841	1,841				
ward 4.....	234	706	578	1,284	1,284				
Total	5,254							17	1,302
Wauwatosa	2,304	7,102	4,030	11,132	11,115	16	1	2,446	1,674
Wauwatosa, city:									
ward 1.....	268	439	474	913	913				
ward 2.....	131	278	345	623	623				
ward 3.....	160	374	403	777	777				
ward 4.....	128	285	315	600	600				
Total	2,413							20	433
Total	76,871	184,328	179,393	363,721	363,735	698	1	3,051	77,541

*3 Chhnamen, 1 Japanese.

†4 Chhnamen.

‡2 Chhnamen.

§1 Chhnamen.



MILWAUKEE SCENE.

CARROLLVILLE.

Carrollville, Milwaukee Co., is an unincorporated village of about 300 inhabitants 73 miles from Chicago and 13 miles from Milwaukee. Good freight and passenger accommodations. Telephone and telegraph. Electric Railroad connections. American Express.

This village is well supplied with shade trees; is well drained. Such raw materials as vegetables and good brick clay can be supplied in the vicinity of the village and other raw material can be shipped in at reasonable transportation rates. Plenty of help can be procured. Coal is shipped by boat from Chicago, Indiana, Ohio, etc. It is supplied with two hotels and a general store.

About three-fourths of the land of the surrounding country is improved. The soil is a clayey loam.

CUDAHY.

Cudahy, Milwaukee Co., is a Milwaukee suburban village having a population of 2,556, located on C. & N. W. Ry., 78 miles from Chicago and 7 miles from Milwaukee. Telephone and telegraph. American Express. Excellent freight and passenger facilities.

This village is located on the shore of Lake Michigan and possesses about the same natural advantages for a manufacturing

center that the larger places on the lake possess. Raw materials can be shipped in at reasonable transportation rates, and plenty of help procured from Milwaukee. The village is supplied with a vinegar factory, implement factory, a packing house, machinery factory, automobile and carriage factory, cooperage factory, boiler and engine factory, a drug store, 7 groceries, 1 hardware, 1 department, 2 dry goods stores, 3 physicians, 2 lawyers, a public school and three parochial schools. The streets of the city are well kept, well drained, provided with good walks, shade trees, etc..

The land surrounding the village is a rich clayey loam, all improved and is excellent for general farming or market gardening.

HALE'S CORNERS.

Hale's Corners, Milwaukee Co., is an unincorporated village of about 250 people located on an electric railroad 5 miles from West Allis. Telephone and telegraph.

This is a summer resort village nearly surrounded by a beautiful chain of lakes abounding in bass, pickerel and other fresh water fish. A bakery is needed. The village is supplied with two groceries, a hardware, a flouring mill, 2 hotels, 2 boarding houses, blacksmith shops, a general store, farm implement dealers, barbers, shoe dealers, 2 meat markets, a physician, a public and a parochial school.

The soil of the farming land surrounding is a black clayey loam. The land is well improved.

MILWAUKEE.

Milwaukee, Milwaukee Co. Population in 1905, 312,948. The city is located on a series of bluffs on the west shore of Lake Michigan, 35 miles north of Chicago. It is on the lines of the Chicago & Northwestern Ry., the Chicago, Milwaukee & St. Paul Ry. and the Wisconsin Central Ry. Of the great railway systems operating between the lake district and the east, the Grand Trunk and the Lake Marquette railways operate all the year from Milwaukee a fleet of six car ferries with a capacity of 30 cars each. The seven great trunk lines, namely: The New York Central, Erie, Lehigh Valley, Lackawanna, Pennsylvania, Baltimore & Ohio, and the Canadian-Atlantic railways, reaching from the Atlantic coast westward, own and operate extensive fleets between their western termini and Milwaukee. Of the independent steamship lines, the Goodrich Transportation Company with a fleet of 3, the Barry Bros. Transportation Company with a fleet of 3, the Crosby Transportation Company with two steamers and one car ferry, and the Michigan Salt Transportation Company with two freight and passenger boats, operate all the year between Milwaukee and Lake Michigan ports. During the season of navigation the Lake Michigan and Lake Superior Transportation Company operates between Milwaukee and points on Lake Superior to Duluth. Telegraph: Western Union and Postal. Express companies: Adams, American, National, Pacific, United States and Wells Fargo.

The beautiful location of Milwaukee on the heights overlooking Lake Michigan, tempered against the extremes of heat and cold by the large body of water, its uniformly well paved and shaded

streets, the metropolitan size and character of its business structures, stately public buildings and churches, magnificent public school system and institutions for higher education have made Milwaukee one of the most popular of the large cities of the country. The city possesses a magnificent public library, an art gallery and public museum. Seven fine parks, placed under the control of a park board created by the legislature, are located in advantageous parts of the city overlooking and adjoining the lake or rivers. A system of drives, connecting all these parks, has been planned and will soon be built.

The educational system of the city is a most comprehensive one, consisting of nearly sixty schools and three large high schools. In addition to the public schools there are many parochial and private schools, about two-fifths of the school children being enrolled in the latter institutions. In Milwaukee-Dowder college, the city possesses one of the oldest colleges for women in the country. There are also located in Milwaukee the largest of the state normal schools, 3 theological seminaries, the Wisconsin Conservatory of Music and two medical and dental colleges.

With churches and religious institutions, the city is well supplied. There are over 140 churches representing all denominations. In addition to these, there are prosperous branches of the Young Men's Christian Association and the Young Women's Christian Association, both of which own large and finely equipped buildings.

Milwaukee ranks pre-eminently as a natural manufacturing center. It is one of the great manufacturing cities of the country. To its advantages of location, invigorating climate, an abundant supply of purest water, nearness of the iron mines and forests, and its superior transportation facilities, both by rail and by water, together with the indomitable energy and progressive spirit of the people are in a large measure due the rapid growth of manufacturing. In 1900, the value of Milwaukee's manufactured products was \$110,854,102. In 1905 this amount had increased to \$138,881,545, a gain of 25.3% in only five years. During the same years the capital invested in manufacturing establishments increased from \$105,503,870 to \$165,929,641, a gain of 57.3%. In 1905, the total number of salaried officials, clerks and wage-earners was 48,646 receiving annually in salaries and wages \$26,779,509. Considering wage-earners alone, the annual average earnings per individual increased nearly 16% from 1900 to 1905.

These statistics of production and employment are confined to those establishments having a product of \$500 and over, thus excluding neighborhood industries and hand and building trades. These statistics include only those industries located within the corporate limits of the city, thus excluding many of the largest manufacturing plants in "Greater Milwaukee." The statistics of the Merchants and Manufacturers Association which include these industries show a total capital of \$194,485,440; number of employees 88,362 and \$285,435,941 as the value of the products in 1905. The population of "Greater Milwaukee" is approximately 340,000.

Milwaukee is the logical wholesale trading center for a large part of the country. Its transportation facilities assure prompt and cheap delivery. Its jobbing houses rank among the largest and most complete in the west. In 1905 the city's jobbing trade amounted to \$406,311,596, to which figure it has grown from only \$182,803,727 in 1895.

Milwaukee is one of the principal lake ports, its tonnage for arrivals and clearance being exceeded only by the harbors of Chicago and South Chicago which are reputed as one and by Duluth. In the number of vessels it exceeds Duluth. In 1905, the tonnage for Milwaukee was, arrivals, 6,466,018 tons; clearances, 6,435,178 tons. Milwaukee is the greatest coal distributing point of the northwest. Coal receipts in 1905 were 3,097,711 tons.

What is most needed by Milwaukee to handle its rapidly growing manufacturing and commercial interest are increased transportation facilities. More railroads and additional carferries are imperative for the city's future greatness, thus directing commerce through Milwaukee across the lake rather than the long trip around it.

Of equal importance to Milwaukee is the formation of closer ties between that city and the state and the northwest. Especially the state of Wisconsin must be made to feel a deeper interest in Milwaukee with whose prosperity it is so intimately connected. The city must be more extensively known, not only as a center of education, art, and all that ministers to the higher life, but as a great commercial and industrial metropolis, the market of the northwest.

The most progressive spirit in Milwaukee is represented by the Merchants and Manufacturers Association and various Business



MILWAUKEE SCENES.

Men's and Advancement Associations. Through the efforts of these organizations several large industries have been induced to locate there. It is also largely due to these bodies that Milwaukee has become one of America's great convention cities. The name Milwaukee is derived from an Indian word meaning, "The great council place." These associations have also undertaken the building of an immense auditorium for the city at a cost of \$500,000, of which \$250,000 were raised by popular subscription. Every consideration is shown the prospective resident or business man and the same public spirit prevails in all that is destined to up-build Greater Milwaukee.

NORTH MILWAUKEE.

North Milwaukee, Milwaukee Co. is an incorporated village having a population of 1,226 located on the C. M. & St. P. Ry.; is a suburb of Milwaukee; telegraph and telephone; good freight and passenger service; electric railway connections with other cities; U. S. and Nat. Express.

Coal shipped from Ohio, Indiana and Illinois is the principal fuel. Such raw material as clay, vegetables and fruit can be supplied in the immediate vicinity while others can be procured at low transportation rates. Plenty of help can be secured. Any factory using such raw materials as wood and iron is best suited for the place. The city is supplied with an electric light plant, a bank, drug store, 2 groceries, 2 hardwares, 1 department store, 1 dry goods store, 2 lumber and coal yards, 2 barber shops, 1 plumber establishment, 5 hotels, 8 boarding houses, a public school employing 6 teachers, 2 physicians, and 1 lawyer. The village has excellent parks, wide streets, cement walks, libraries, museums, etc.

SOUTH MILWAUKEE.

South Milwaukee, Milwaukee Co., is an incorporated city having a population of 5,284 located on Lake Michigan on the C. & N. W. Ry., 10 miles from Milwaukee and 75 miles from Chicago; facilities for the receipt and shipment of freight are the best; passenger service good; electric railway; telephone and telegraph; American Express.

This city is a suburb of Milwaukee and possesses all the natural elements necessary for a manufacturing center that is possessed by other large cities located on Lake Michigan. Such raw materials as clay, sand and stone can be supplied from the immediate vicinity, and the railroad and Lake Michigan afford excellent facilities for procuring other raw materials at reasonable transportation rates. Coal is shipped from Ohio, Indiana and Illinois. Plenty of help can be procured. Almost any kind of manufactur-

ing establishment would do well here. The place is in need of a first class hotel, a brick yard and another general foundry. It is already supplied with a bank, 2 drug stores, 10 groceries, 2 hardwares, 2 department stores, 5 dry goods stores, 3 shoe stores, 1 jewelry store, 3 coal yards, 2 mason supply houses, one lumber yard, 1 ice dealer, 1 photographer, 5 physicians, 3 dentists, and a public school employing 15 teachers.

Every manufacturing establishment in the city is being operated to its full capacity. Improvements (by way of dwellings, factories, sewers, water mains, streets, sidewalks, etc.), were inaugurated during the last year amounting to nearly \$400,000. Contemplated improvements for the coming year will exceed this amount. The dredges, wrecking cranes, pile drivers, etc., being used in the construction of the Panama canal were made in South Milwaukee. This city is connected with Milwaukee, Racine, Kenosha and Waukesha by an electric railroad and a new line is now being constructed to Chicago.

All the land surrounding the city is improved and affords excellent opportunities for dairying and market gardening.

WAUWATOSA.

Wauwatosa, Milwaukee Co., is a city of 2,913 inhabitants located on the C. M. & St. P. Ry., adjacent to Milwaukee and about 37 miles from Chicago. Good freight and passenger facilities. Telephone and telegraph. Electric railroad connections. American Express.

Coal is the fuel used. A canning factory is best suited for the place. Plenty of help can be procured. The city is supplied with an electric light plant, a gas plant, drug store, 2 groceries, 1 hardware, 1 general store, 3 meat markets, 1 furniture store, a barber shop, harness shop, tin and repair shop, an electric supply shop, 2 shoe repair shops, 2 printing establishments, 2 feed stores, a lumber yard, sanitarium, a hotel, 3 boarding houses, 6 physicians, park, public library, and an excellent high school system.

The land surrounding the city is well improved, the soil a clayey loam and very fertile. The country is somewhat hilly.

WEST ALLIS.

West Allis, Milwaukee Co., is an incorporated village having a population of 2,306 located on the C. M. & St. P. and the C. & N. W. railroads and on three electric lines running into Milwaukee and two interurban lines, one leading to Waukesha, the other to Muskego lake and will be extended to Lake Geneva; is 2 miles from Milwaukee, 37 miles from Chicago. Telephone and telegraph. First class freight and passenger facilities. American, National and United States Express.

Coal is shipped from Illinois, Indiana and Ohio. The village is supplied with water from artesian wells and from the water

mains of the city of Milwaukee. Plenty of help can be secured from Milwaukee, being 20 minutes ride from the city at a four cent fare. Such raw materials as fruit, vegetables, clay for brick, sand, and building stone, can be supplied here, and other raw materials can be procured at a very low transportation rate. Timber and iron can be procured from the northern part of the state, lead and zinc from the southwestern part, cotton from the south, etc. Two new railroads are soon to be built through the city, the Wisconsin Central and the Milwaukee Southern. The city is supplied with a bank, 2 drug stores, 6 groceries, 3 hardwares, 2 department stores, 2 dry goods stores, 4 barber shops, 1 gents furnishing store, 2 lumber yards, 2 coal and wood yards, 2 flour and feed stores, 3 candy and confectionery stores, 4 meat markets, 1 machine shop employing 5,000 men, a steel tank company, and a chain belt factory, each employing 250 men, and a machine factory, casting shop, sash, door and blind factory, and a corn husker factory employing in the aggregate 500 men. Most of the employees working in these shops reside in Milwaukee. When the Allis-Chalmers Co. complete their shop, the village of West Allis will have the largest machine shops in the world. This village contains the state fair grounds, and the National Soldiers' Home is adjoining. In the line of business openings, groceries, meat markets and drug stores are best suited for the place.

The surrounding farm lands are almost wholly devoted to market gardening and truck farming.

WHITEFISH BAY.

Whitefish Bay, Milwaukee Co., is a suburban village of the city of Milwaukee having a population of 527 located on the C. & N. W. Ry., 7 miles from Milwaukee, and 92 miles from Chicago. Good freight accommodations. 8 passenger trains daily. Telephone and telegraph. Electric railroad to Milwaukee. American Express.

Whitefish Bay is a suburb of Milwaukee and can be made a fine summer resort. A summer hotel is needed here. A cement block factory is best suited for the place. Labor would have to be procured from other cities. Coal is shipped from Illinois, Ohio, etc. The village has a grocery, 1 hardware, a public school, 1 physician, and a lawyer.

The soil in this locality is good and nearly all the land suitable for farming purposes is improved.

MONROE COUNTY.

Monroe county is situated in the west central part of the state. The area is 915 square miles. The population in 1905 was 33,730, being a gain of 1,160 over the census returned of 1900. Of this population only 4,710 persons were foreign born, Germans being in the majority. In 1890 the total farm area was 382,484 acres, of which only 180,210 acres had been improved. In 1905 the total farm acreage was 457,552 acres, of which 210,767 acres had been improved. The value of this land, including improvements, has increased from \$5,265,880 in 1890 to \$11,823,143 in 1905, an increase of 105% in 15 years. The northern part of the county consists, to a large extent, of swampy lands drained by the Lemon-weir river. These low lands consist mainly of hay meadow and tamarack swamp, separated by low hills and ridges. The southern half of the county is rough and hilly, consisting of high rolling ridge land intersected in all directions by deep ravines and valleys. There are many precipitous cliffs and steep ridges rising several hundred feet in height. The soils in the northern two-thirds of the county are mainly sandy and sandy loams, through which occur occasional irregular areas of humus soils composed mainly of muck and peat. The soil in the southern one-third of the county is mainly clayey loam of a light and medium variety. The tops of the ridges are strewn with irregular boulders of flint. Banks of flinty gravel occur along many of the stream channels, especially in the southern half of the county. The chief farm products and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	20,643	7,146
Oats	31,530	50,615
Barley	2,319	4,486
Rye	5,843	5,991
Corn	15,972	20,725
Hay	37,386	51,797

In 1905 there were in the county 4 cheese factories, 21 creameries and 8 skimming stations. A substantial source of farm income is the culture of berries. While there is a considerable

acreage of unimproved land in the county it is owned in connection with the improved land and does not exist in any large separate tract. The prices for this unimproved land ranges from \$3 to \$10 per acre according to the nature and condition of the land. Improved farms range from \$20 to \$125 per acre. Sparta is the county seat. The following table shows the population statistics of the local political division of the county in 1905:

MONROE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			E-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Adrian	125	338	283	621	621	...	...	6	135
Angelo	164	338	323	661	660	1	...	8	102
Byron	178	456	384	840	840	...	...	11	137
Clifton	189	500	423	923	923	...	...	4	179
Glendale	211	539	468	1,007	1,007	...	...	12	156
Kendall, village	115	274	261	535	535	...	...	13	101
Grant	110	280	214	494	494	...	...	11	78
Greenfield	169	376	318	694	694	...	...	7	125
Jefferson	215	650	618	1,268	1,268	...	...	4	203
Cassbton, village	154	355	318	673	673	...	...	4	180
Lafayette	91	208	202	410	404	6	...	10	72
La Grange	205	602	600	1,202	878	324	...	13	139
Leon	163	443	361	804	804	...	...	2	192
Lincoln	196	456	470	926	925	1	...	17	153
Little Falls	253	645	590	1,235	1,235	...	...	11	209
New Lyme	57	155	126	281	281	...	...	...	51
Onkdale	153	352	354	706	706	...	...	8	119
Portland	232	630	520	1,150	1,143	1	...	2	212
Ridgeville	163	435	406	841	841	...	...	5	157
Norwalk, village	125	223	252	475	475	...	...	7	87
Scott	60	145	126	271	271	...	...	6	43
Sheldon	161	455	380	835	835	...	...	7	132
Outario, village	27	47	57	104	104	...	...	4	21
Sparta	290	808	674	1,482	1,482	...	...	18	241
Sparta, city:									
ward 1	209	428	517	945	937	8	...	...	...
ward 2	265	426	545	971	957	14	...	...	...
ward 3	243	487	554	1,041	1,041	...	...	...	...
ward 4	223	408	442	850	843	7	...	...	...
Total, city...3,807								96	530
Tomah	154	430	370	800	800	...	...	3	153
Tomah, city:									
ward 1	211	394	475	869	867	*2	...	...	...
ward 2	284	515	559	1,074	1,074	...	...	...	...
ward 3	251	515	550	1,065	1,065	...	...	...	...
Total, city...3,008								35	441
Wellington	206	592	486	1,078	1,078	...	...	14	177
Wells	119	364	332	696	696	...	...	2	136
Wilton	162	472	403	875	875	...	...	3	176
Wilton, village	110	255	256	511	511	...	...	9	96
Total	6,243	15,046	14,217	29,263	28,899	40	324	352	4,965

*2 Chinamen.

CASHTON.

Cashton, Monroe Co. Population, 673. An incorporated village located on the Viroqua branch of the C. M. & St. P. Ry., in Jefferson township, in the southwestern part of the county, 18 miles from Sparta, the county seat, 44 miles from La Crosse, 124 miles from Madison, 190 miles from Milwaukee and 265 miles from Chicago. United States Express. Telegraph and telephone. Shipping facilities and passenger service fair.

The village has wide streets, some cement walks, shade trees in the resident part, good substantial brick business blocks, many fine residences and well kept lawns, water works, volunteer fire department, is lighted by electricity, has a bank, 1 drug store, 1 grocery and feed store, 3 hardware and 5 general merchandise stores, 1 shoe store, 1 furniture and undertaking establishment, 2 good hotels, a \$20,000 high school building, 6 teachers employed, Catholic church, a mile east, Congregational and Lutheran churches, 2 physicians, 2 dentists, a lawyer, 1 restaurant, 2 meat markets, a photographer, 3 blacksmith shops, 2 barber shops, marble shop, brick yard, flour mill, 2 creameries, a large tobacco warehouse, planing mill and interior finishing factory, a steam laundry and 2 grain elevators. A weekly newspaper is published.

Steam power is used. Wood and coal are used for fuel. Wood is obtained from the surrounding country and coal from Milwaukee and Chicago. Fruit and vegetable can be supplied for canning. Brick clay, building stone, sand and a limited amount of hardwood timber can be furnished from the adjacent country. Plenty of help, men and young persons, can be secured in the vicinity. Good location for a cement block factory.

The village is located in one of the best farming sections in the county and 75 per cent of the land is improved. The land is practically all level with a rich clay soil. A fine grade of leaf tobacco is produced and large crops of corn, hay and small grain are raised. Dairying and stock raising are leading occupations of the farmers. The village is a good market for all kinds of farm produce and is a distributing point for a large section of country. Live stock, farm produce and dairy products are the principal shipments.

CATARACT.

Cataract, Monroe Co. An unincorporated village of about 150 inhabitants located in the township of Little Falls, on Big Creek, in the northeastern part of the county, 11 miles north of Sparta, the county seat, banking and shipping point.

Has telephone connections, 3 general stores, millinery store, a hotel, boarding house, grade school employing 2 teachers, 2

churches, a physician, a blacksmith shop, berry crate factory, meat market and a creamery.

The village has a small undeveloped water power. Wood is obtained from the surrounding country. Berries and vegetables could be supplied for canning. A limited amount of help can be secured here.

The surrounding country is sandy, but contains many good farms. The low lands are marshy but when drained are valuable farm lands. Dairying is the chief industry. There is a demand here for a cheese factory.

KENDALL.

Kendall, Monroe Co. Population, 535. An incorporated village located on the C. & N. W. Ry., in Glendale township, in the southeastern part of the county, 28 miles from Sparta, the county seat, 52 from La Crosse, 80 from Madison, 162 from Milwaukee and 219 from Chicago. American Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has good streets, shade trees, a bank, 1 drug store, 1 hardware and 4 general stores, furniture store, 1 hotel, 2 boarding houses, good public school employing 5 teachers, 2 physicians, meat market, 2 blacksmith shops, feed mill, grist mill one mile away, 2 farm implement dealers, and a creamery. A weekly newspaper is published.

Some fruit and all kinds of vegetables can be supplied for canning. Clay and hardwood timber are the principal natural products. Plenty of help can be secured here. Good location for broom factory, or a canning factory.

The surrounding country is good for farming and about two-thirds of the land suitable for farming is improved. The land is hilly, but ridges and valleys are alike good for farming and all the very best soil. Dairying and stock raising are the chief industries. The shipments comprise live stock, dairy products and farm produce.

NORWALK.

Norwalk, Monroe Co. Population, 475. An incorporated village located on the C. & N. W. Ry., in southern part of the county, 13 miles southeast of Sparta, the county seat, 37 from La Crosse, 95 from Madison, 177 from Milwaukee and 238 from Chicago. American Express. Telegraph and telephone connection. Good shipping facilities and passenger service.

Is supplied with a bank, drug store, 3 hardware and 4 general stores, shoe store, furniture store, jewelry store, 1 hotel, graded school employing 4 teachers, 4 physicians. Catholic, Evangelical, Lutheran and Methodist Episcopal churches, meat markets, barber shops, blacksmith shops, and a weekly newspaper.

Wood is used for fuel, obtained in the vicinity. Fruit and vegetables can be supplied for canning and the natural products are clay, sand, stone and timber. A limited amount of help can be secured to work the entire year. The village needs better hotel facilities.

The country surrounding the village is hilly, but the valleys and ridges are fine farming lands and nearly all improved. The soil in the low lands is a sandy loam and clay on the high lands. Stock raising and dairying are the chief industries.

ONTARIO.

(See Vernon County.)

SPARTA.

Sparta, Monroe Co. Population, 3,807. The judicial seat of Monroe county is located in western part of the county on the C. M. & St. P. and the C. & N. W. Rys., and on the La Crosse river, 26 miles from La Crosse, 108 from Madison, 173 from Milwaukee and 247 from Chicago. American and United States Express. The very best shipping facilities and passenger service.

The city has several miles of paved streets, cement and brick walks, substantial brick business blocks, beautiful residences, streets arched with large shade trees, numerous artesian wells of mineral water, a complete system of water works and sewerage, an efficient fire department, is lighted by electricity, has 3 banking houses, 3 drug stores, 7 grocery stores, 3 hardware and 6 general stores, 2 laundries, 2 shoe stores, 5 hotels, excellent high and graded public schools employing 18 teachers, Adventist, Catholic, Congregational, Episcopal, Lutheran, Methodist and Norwegian Lutheran churches, a free public library, and an opera house. The state school for Dependent and Neglected children is located here. The manufacturing industries comprise the Sparta Iron Works, Sparta sash and Door Co., the American Cigar Co., warehouses and curing plant, grist mill, cigar factories and creamery. Three weekly newspapers are published.

There is a water power here not all utilized. Coal and wood are used for fuel. Wood is obtained from the surrounding country and coal from Milwaukee and Chicago. Fruit and vegetable can be supplied for canning. Plenty of help can be secured to work the year round.

The city is situated in a good farming country and about all the land suitable for crop raising is improved. The soil is a sandy

loam. This is the best berry section in Wisconsin and no better location can be found for a canning factory using this product. Large quantities of melons and cucumbers are raised and a pickle salting station has been established here for a number of years. Large sections of the hilly lands are used for grazing purposes and thousands of cattle and sheep are kept here during the summer. There are hundreds of acres of land in this section that can be made valuable for the production of small fruits, vegetables, sugar beets, potatoes, etc. Sparta is a good location for a beet factory. Also a good location for a wholesale grocery.

TOMAH.

Tomah, Monroe Co. Population, 3,008. An incorporated city located on the main line of the C. M. & St. P. Ry., and the end of the valley division of the same road, 17 miles northeast of Sparta the county seat, 42 miles from La Crosse, 97 miles from Madison, 156 from Milwaukee and 240 from Chicago. U. S. Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The city is located in the center of a fertile country, is lighted by electricity, has a fine water works system owned by the city, a volunteer fire department, 2 banks, 3 drug stores, 7 general stores, 3 hardware and 4 dry goods stores, 2 laundries, 6 hotels, high and graded schools employing 15 teachers, parochial schools, churches of the leading religious denominations, 7 physicians, 5 lawyers, a public library, a public hall and an opera house. A government school for Indians is located here. The manufacturing industries comprise the Tomah Peat Co., pickle factory, saw and planing mills, iron works, two sash and door factories, flour mill, and a creamery. The bridge building department of the C., M. & St. P. Ry. is located here and employs about 125 men. Two weekly newspapers are published.

Steam power is used for factories. Wood, coal and peat are used for fuel. Wood and peat are obtained from the adjacent country and coal from Milwaukee and Chicago. Fruit and vegetables can be furnished in large quantities for canning. There is an abundance of clay, sand, peat and timber near the city. Help can be secured here.

The surrounding country is good for farming and not over 50 per cent of the land suitable for crop raising is improved. The soil is a sandy loam in the valleys which produce good crops. This section produces large quantities of berries and vegetables, potatoes, etc. Is a good grazing country and dairying is an im-

portant industry. Good location for a starch, sugar, canning or box factory.

VALLEY JUNCTION.

Valley Junction, Monroe Co. Population, 250. An unincorporated village located at the junction of the C. M. & St. P., and C. St. P. M. & O. Ry's., in the northeastern part of the county, 24 miles from Sparta, 100 from Madison, 157 from Milwaukee and 238 from Chicago. American and United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

Has 1 general store, 2 hotels, graded school employing 2 teachers, 2 churches, 1 physician, grain elevator, feed mill, meat market, blacksmith shop and creamery. A weekly newspaper is published. Opening for canning factory and pickle salting station.

Most of the surrounding country is swampy, which will be valuable farm lands when thoroughly drained. The country is covered with large beds of peat, ranging from 2 to 12 feet in depth. As the country develops this village will grow in importance owing to its location and excellent railway facilities.

WARREN.

Warren, Monroe Co. Population, 275. An unincorporated village on the C. St. P. M. & O. Ry., in the northeastern part of the county, 31 miles from Sparta, 55 from La Crosse, 107 from Madison, 190 from Milwaukee and 245 from Chicago. American Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has clean streets, good sidewalks, an abundance of shade trees, electric light plant, 1 general store, 1 hotel, 1 boarding house, graded school employing 3 teachers, 1 physician, a flouring mill, 1 manufacturing and repair shop, creamery, a church, tailor shop, meat market and a weekly newspaper.

Wood is used for fuel obtained from the adjacent territory. Fruit and vegetables can be supplied for canning. Clay, sand, stone, peat and timber are the natural products. Help can be secured in the vicinity. A canning factory and a good hotel is needed.

The surrounding country is good for farming and about 50 per cent of the land suitable for crop raising is improved. The soil is a sandy loam and 75 per cent of the country is level and free from stone.

WILTON.

Wilton. Monroe Co. Population, 511. An incorporated village located in Wilton township, on the C. & N. W. Ry., in the south central part of the county, 18 miles southeast of Sparta, 45 from La Crosse, 90 from Madison, 172 from Milwaukee and 228 from Chicago. American Express. Telegraph and telephone connections. Good freight facilities and passenger service.

The village has good streets and walks, fine business blocks and residences, a bank, 1 drug store, 2 hardware and 6 general stores, 3 hotels, high school employing 6 teachers, 2 physicians, Catholic, Lutheran and Methodist churches, furniture store, meat market, jewelry store, harness shop, blacksmith shop, flour mill, wagon factory and repair shop and 2 creameries. A weekly newspaper is published.

There is a small water power here not utilized. Wood is used for fuel, obtained from the adjacent country. Fruit and vegetables can be furnished for canning. An opening for a canning factory or woodenware factory. Brick, clay, sand, stone and timber are the natural products. There is a first class location here for a brick yard. Help is plenty in the village and vicinity.

The land surrounding the village has a good clayey soil, a little hilly, but no sandy or swamp lands. It is a good farming section and about 75 per cent of it is improved. The village is a good market for all kinds of farm produce and ships a large amount of live stock.

OCONTO COUNTY. .

Oconto county is located in the northeastern part of the state bordering on Green Bay. The area is 1,080 square miles. The population in 1905 was 24,580, a gain of 3,706 over the census returns in 1900. Nearly one-fourth of the population is foreign born, of which number Germans represent nearly two thousand. Other nationalities represented by large numbers of settlers are Canadians, Poles and Danes. Oconto county was at one time an immense forest and lumbering is still its principal industry. While agriculture has grown rapidly it has not kept pace with the retreating forests and where the timber has been removed, thousands of acres of tillable cut-over lands await the settler. The total farm area in 1905 was 227,354, or less than one-third of the county, and of this acreage only 97,474 acres were improved. In 1890 the total farm area was 135,630 acres with 46,588 acres improved. The greatest increase has been in

the valuation of the farms and improvements which grew from \$2,482,810 in 1890 to \$7,095,403 in 1905, a gain of over 185 per cent. With the exception of an area adjacent to Green Bay, the county is generally rough and hilly, especially in the northern part. The topography has been modified by glacial and stream erosion. The soils of the county are very largely clayey loams. A strip of sand and sandy loams about eight miles wide extend through the county from the southwest to northeast. There are several irregular areas of sand and sandy loam in the southeastern part of the county in the vicinity of Green Bay. Numerous areas of humus soils, composed mainly of muck and peat, occur in different parts of the county. There are some parts of the county where the soil is rather stony. The chief crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	3,387	4,370
Oats	10,337	23,190
Barley	225	1,924
Rye	1,007	2,083
Corn	1,080	2,321
Hay	15,800	32,490

In 1905 there were 17 cheese factories and 5 creameries in the county. The soil of Oconto county is well adapted to dairying and this industry is destined to occupy a position of much greater importance in the future. The sandy loams are natural potato soils and promise a good yield. Owing to the large amount of cut-over lands which can be had at reasonable prices, an excellent opportunity is offered for sheep pasturing. The price of unimproved lands which can be made tillable, ranges from \$5 to \$12 per acre. Improved farm lands average about \$40 per acre. A considerable portion of the western part of the county is occupied by the Menominee Indian Reservation. Oconto is the largest city and county seat. The population of the cities, villages and towns of the county for 1905 was as follows:

OCONTO COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Armstrong	112	359	275	614	612	.....	2	4	153
Braceau	107	334	261	599	599	.....	.....	1	103
Breed	54	167	136	303	303	.....	.....	1	61
Chase	131	624	532	1,156	1,156	.....	.....	7	165
Gillett	194	622	499	1,121	1,120	1	.....	6	215
Gillett, village	101	271	243	514	493	.....	21	4	103
Howe	170	507	466	973	973	.....	.....	3	178
Lena	221	652	623	1,275	1,275	.....	.....	3	243
Little River	209	625	580	1,205	1,205	.....	.....	4	191
Little Suamico	225	644	572	1,216	1,216	.....	.....	3	181
Maple Valley	206	537	445	982	982	.....	.....	4	172
Menomonee Indian Reservation, part of.....	71	162	147	309	3	.....	*306	8	.....
Morgan	119	342	325	667	667	.....	.....	6	111
Oconto	221	614	560	1,164	1,164	.....	.....	6	204
Oconto, city:									
east ward	316	814	769	1,583	1,581	2	.....	.....	.....
north ward	215	560	516	1,076	1,076	.....	.....	.....	.....
west ward	198	521	508	1,029	1,026	.....	3	.....	.....
south ward	413	1,031	1,003	2,034	2,034	.....	.....	.....	.....
Total, city.....	5,722							37	1,162
Oconto Falls	131	351	328	679	679	.....	2	2	107
Oconto Falls, village..	272	666	635	1,301	1,301	.....	.....	3	251
Pensaukee	350	940	834	1,774	1,774	.....	.....	25	273
Spruce	202	585	511	1,106	1,106	.....	.....	2	189
Stiles	150	526	458	984	984	.....	.....	7	186
Underhill	130	409	366	775	775	.....	.....	.....	124
Wheeler	34	83	54	142	142	.....	.....	4	34
Total	4,631	12,961	11,619	24,580	24,245	3	332	140	4,346

*Indians not taxed.

GILLETT.

Gillett, Oconto Co., is an incorporated village. Population, 514. Located on C. & N. W. Ry., 23 miles from Oconto, 161 miles from Milwaukee and 53 miles from Green Bay. Telephone and telegraph. Good facilities for receipt and shipment of freight. Fair passenger facilities. American Express.

Wood for fuel is procured from the surrounding forests. Such raw materials as peas, clay, timber and sand can be supplied. An excelsior factory is best suited for the place. Plenty of help can be procured for this purpose. The village is supplied with an electric light plant, a bank, drug store, 4 groceries, 3 hardwares, 3 drygoods stores, 2 blacksmith shops, flour mill, pail factory, planing mill, sawmill, sash and door factory, tailor shop, newspaper, furniture store, harness shop, meat markets, restaurants, opera house, 3 hotels, a livery stable, a fancy woodworking establishment, 5 churches, a good graded school, machine shop, 4 physicians and 3 attorneys at law.

Some of the best farm lands of the state are located here. The land is level and practically free from sand, stone and marshes.

LENA.

Lena, Oconto Co., is an unincorporated village of about 500 people; is located on the C. M. & St. P. Ry., 144 miles from Milwaukee, 229 miles from Chicago and 32 miles from Green Bay. Has good freight and passenger facilities. Telegraph and telephone. American Express.

Wood for fuel is procured from the immediate vicinity. Coal is shipped from Green Bay. Such raw materials as clay, sand, vegetables, and an abundance of timber can be supplied, and about 200 laborers procured. A pea canning or woodworking factory is best suited for the place. A first-class hotel is needed. An electric light plant may prove a profitable investment. The village is supplied with a bank, drug store, a grocery, 2 hardwares, 5 general stores, 2 meat markets, 1 furniture, and 1 jewelry store, 4 hotels, 2 physicians, a graded school of 4 departments, 2 elevators, flour and planing mill.

About two thirds of the land in this vicinity suitable for farming is improved. It is all level and nearly free from stone, sand and swamps.

OCONTO.

Oconto, Oconto Co., is a city having a population of 5,722 located on the C. & N. W. and the C. M. & St. P. railroads 147 miles from Milwaukee, 232 miles from Chicago and 29 miles from Green Bay; excellent freight and passenger facilities. Telephone and telegraph. United States and American Express.

Plenty of labor can be procured for factory work. Such raw material as aluminum, clay, sand, limestone, fruit, vegetables, fish and an abundance of timber can be supplied. A woodworking establishment or a tannery is best suited for the place. The city is provided with an electric light plant, 2 banks, 4 drug stores, 15 groceries, 2 department stores, 1 laundry, 2 large sawmills, pea canning factory, post mill, brewery, foundry, 3 jewelry stores, 3 agricultural implement establishments, 3 shoe stores, 3 clothing stores, 2 flour and feed stores, 3 millinery stores, 2 coal and wood yards, 3 confectionery stores, 6 hotels, several boarding houses, 5 physicians, 5 lawyers, a high school employing 18 teachers, 3 weekly and 1 semi-weekly newspaper, a splendid public library and an armory. The streets are macadamized, and have an abundance of shade. The city also has a public park.

Some of the best lands in Wisconsin are in close proximity to Oconto, three-fourths of which is improved. There is some sandy land, but most of it is level, free from stone and marshes.

OCONTO FALLS.

Oconto Falls, Oconto Co., is an incorporated village having a population of 1,301; is located on the C. & N. W. Ry., 160 miles from Milwaukee, 14 miles from Oconto and 43 miles from Green Bay. Telephone and telegraph. Three passenger and two freight trains daily each way. American Express.

Two undeveloped water powers can be procured, one having a 28 foot fall, the other 34. Help can be obtained in the village and surrounding country. Such raw materials as small fruit, vegetables, clay, sand, limestone and an abundance of timber can be obtained from the immediate vicinity. Any establishment that can utilize these materials is suited for this place. The village is supplied with a bank, 2 drug stores, an electric light plant, 6 groceries, 3 hardwares, 5 drygoods stores, a paper mill, 2 pulp mills, 1 sulphite mill, 2 machine shops, 1 pail factory, 1 grain elevator, 2 cigar factories, a newspaper, 2 hotels, 2 boarding houses, 5 physicians, a high school employing 10 teachers, 5 churches, and 3 public halls. This village could be made a summer resort.

About one half the land in this section of the state suitable for farming is improved. The soil is good for any kind of farming; is free from stone and swamps.

SOBIESKI.

Sobieski, Oconto Co., is a new village just being laid out. Population, 200. Located on C. M. & St. P. Ry., 16 miles from Green Bay and 128 miles from Milwaukee. Telephone and telegraph. Good freight and passenger facilities.

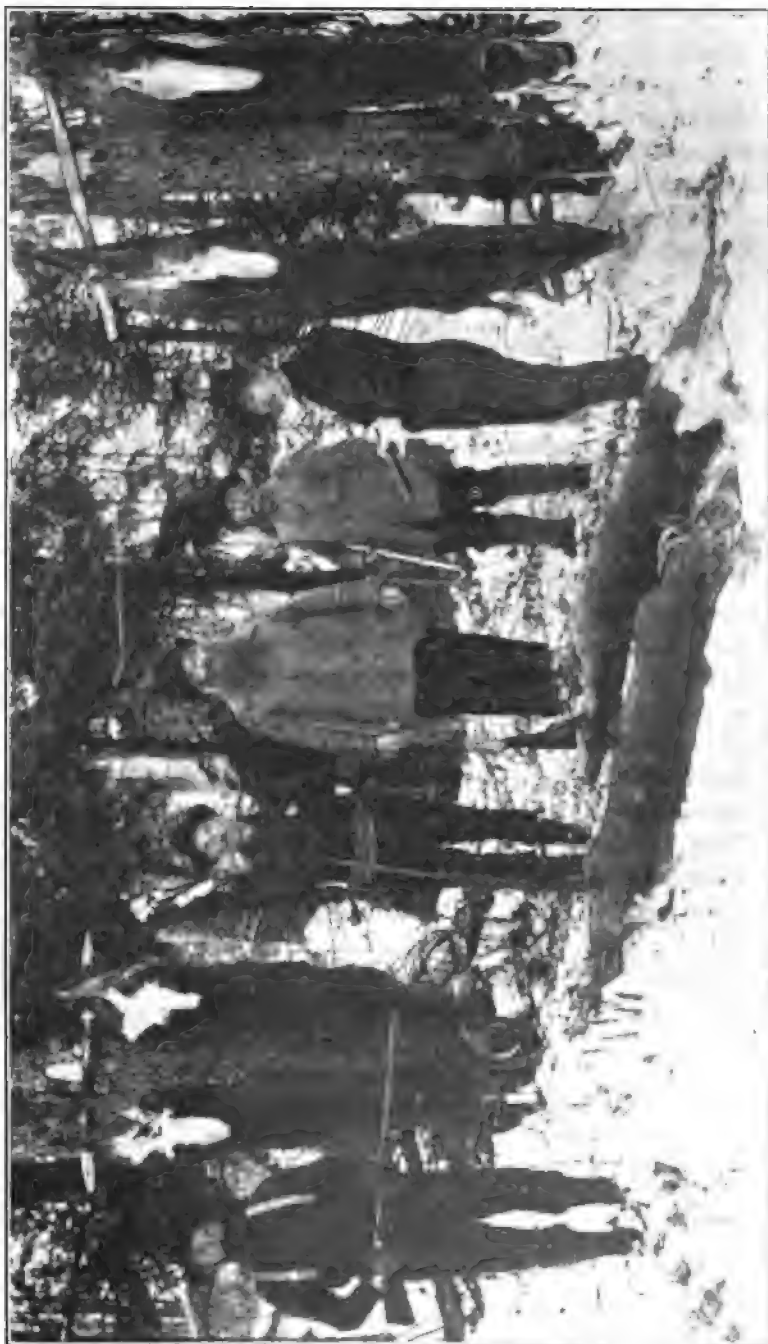
This village can be made a summer resort. A canning factory and flouring mill is best suited for the place. Such raw materials as clay, sand, timber, stone, small fruit and vegetables can be supplied, and plenty of help secured. Wood for fuel is abundant in the immediate vicinity and coal can be shipped from Green Bay. The village is supplied with 2 grocery and 2 general stores, an agricultural implement warehouse, a grain, hay and potato warehouse, a blacksmith shop and 2 hotels. A first-class hotel is needed.

About one-third of the land in this locality suitable for farming is improved. The soil is good and well adapted for general farming.

SURING.

Suring, Oconto Co., is an unincorporated village of about 300 inhabitants; located on the C. & N. W. Ry., 168 miles from Milwaukee, 32 miles from Oconto and 62 miles from Green Bay. Telephone and telegraph. Good facilities for receipt and shipment of freight. American Express.

Such raw materials as small fruit, vegetables, clay, sand and timber can be supplied. A woodworking or canning estab-



NORTHERN WISCONSIN IS THE HUNTERS PARADISE.

ishment is best suited for the place. Any amount of help can be procured from the village and surrounding country. The village is supplied with a drug store, 4 general stores, 1 confectionery, 1 jewelry store, 1 millinery store and a meat market.

About one third of the land in this locality suitable for farming purposes is improved, is practically all level and free from stone. There is some low land here. The soil is a clayey loam and excellent for general farming purposes.

ONEIDA COUNTY.

Oneida county is located in the north-central part of the state. The area is 900 square miles. The population in 1905 was but 11,234, a gain of 2,359 over the census of 1900. Over one-fourth of this population is of foreign birth, Germans, Canadians and Swedes predominating. Lumbering is the principal industry of the county, agriculture being as yet but little developed. The total farm area in 1905 was but 57,369 acres, of which only 9,168 acres had been improved. This total farm area is but 10 per cent of the available land of the county, the vast tracts of cut-over lands offering excellent inducements to settlers. The value of the land now under cultivation including the improvements is \$744,625. The surface of the county has been shaped very largely by glacial erosion and deposition. The northern part of the county has a pitted surface due to the irregular manner in which the glacial drift was distributed. The soil of the county, commencing several miles to the east of the Wisconsin river and extending westward to the Tomahawk river is a sandy loam, which in the river valleys shades into a sandy soil. In the southeastern and southwestern parts of the county the soil is a clayey loam of the lighter varieties, and in places is rather stony, but not to such an extent as to permanently interfere with cultivation. There are numerous irregular areas of humus soils scattered throughout the county. In the northern and eastern part of the county are several small lakes. The chief products of the farms are oats, barley and hay. There is but one creamery in the county. The soil in parts of the county will support an excellent dairy industry while other parts are better suited to sheep raising. The range of prices for unimproved lands, such as can be made tillable, is from \$7 to \$12 per acre. The price of good

improved land averages about \$50 per acre. Rhinelander is the largest city and county seat. The population of the local political divisions for 1905 was as follows:

ONEIDA COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Cassian	87	214	149	363	340	.....	23	2	67
Crescent	63	263	190	453	452	.....	6	3	105
Enterprise	25	173	52	225	225	.....	.....	.....	101
Gagen	208	375	377	752	712	.....	.....	.....	73
Hazelhurst	122	451	226	677	677	.....	.....	4	232
Lynn	45	139	81	220	220	.....	.....	.....	62
Minocqua	165	427	331	758	758	.....	.....	7	265
Monico	63	239	148	387	337	.....	.....	1	95
Newbold	42	129	97	226	216	.....	.....	.....	22
Pelican	89	231	192	422	422	.....	.....	3	58
Pine Lake	43	111	91	202	202	.....	.....	3	41
Rhinelander, city:									
ward 1.....	162	501	370	871	871	.....	.....	.....	.....
ward 2.....	180	554	428	982	982	.....	.....	.....	.....
ward 3.....	153	505	355	860	860	.....	.....	.....	.....
ward 4.....	171	468	405	873	813	.....	.....	.....	.....
ward 5.....	191	573	425	998	994	.....	.....	.....	.....
ward 6.....	200	430	461	891	911	.....	.....	.....	.....
Total, city, 5,435								21	1,306
Schoepke	80	201	166	367	362	.....	5	4	73
Sugar Camp	51	213	122	335	299	.....	36	.....	103
Woodboro	22	144	35	179	179	.....	.....	1	18
Woodruff	53	166	102	268	263	.....	.....	1	85
Total	2,215	6,471	4,763	11,234	11,160	4	70	50	2,778

*1 Chinamen.

HAZELHURST.

Hazelhurst, Oneida Co., is an unincorporated village of about 400 inhabitants; is located on the C. M. & St. P. and H. S. E. railroads 156 miles from New Lisbon, 65 miles from Wausau and 295 miles from Milwaukee. Telegraph and telephone. Good freight and passenger facilities. U. S. Express.

After the supply of saw timber has been exhausted this town can be easily converted into a most popular summer resort because of the many beautiful fresh water lakes in the surrounding country.

There are only about 25 farms tributary to this village, each having from 10 to 40 acres improved. The soil is a sandy loam and well adapted for general farming.



FOREST SCENE BEFORE THE PIONEER MARRED ITS BEAUTY.

RHINELANDER.

Rhineland, Oneida Co., is a city of 5,435 inhabitants; located on the "Soo" and C. & N. W. railroads, 254 miles from Milwaukee, 213 miles from St. Paul, and 121 miles from Escanaba, Mich. Telephone and telegraph. Good freight and passenger facilities. American and National Express.

A 1,200 horse water power can easily be developed here. Such raw material as sand, stone and all kinds of timber can be supplied and any establishment that can utilize these is best suited for the place. A flour mill is also suited for this city. Any amount of help can be procured. The village is supplied with an electric light plant, 2 banks, 3 drug stores, 7 groceries, 3 hardwares, 2 department stores, 2 dry goods stores, 2 laundries, jewelry stores, blacksmith and machine shops, harness shops, saw mills, brewery, refrigerator factory, paper mill, 3 hotels, several boarding houses, 8 physicians, 8 lawyers, a high school, employing 31 teachers, good parks, excellent streets, an abundance of shade trees, cement sidewalks, etc. Three weekly newspapers are published.

About three fourths of the land tributary to Rhineland suitable for farming is improved. The soil is very fertile, yet there



**THIS SHOWS THE PROGRESS THE INDUSTRIOUS PIONEER HAS MADE
WITHIN FIVE YEARS.**

is some rough land here, some stony, sandy and marshy, while about one fourth is level and free from stone.

THREE LAKES.

Three Lakes, Oneida Co., is an unincorporated village of about 400 people; is located on the C. & N. W. Ry., 2½ miles from Milwaukee and 50 miles from Antigo. Telephone and telegraph. Good freight and passenger facilities. American Express.

A 10,000 horse water power can easily be developed here. Wood for fuel is obtained in the immediate vicinity. Such raw materials as clay, sand, stone and all kinds of timber can be supplied, and 125 laborers procured. A box or woodenware factory is best suited for the place. A first-class hotel is also desired. The village is supplied with general and hardware stores, dress-making and millinery establishments, a blacksmith shop, and 2 hotels. This village can be easily made one of the most popular summer resort towns in the northwest, being located on one of a chain of twenty or more beautiful lakes being connected by a

river easily navigable by launches. Fresh water fish of all kinds abound in these lakes, and the forests surrounding them provide excellent hunting for all kinds of wild game.

The soil here is well adapted for farming purpose, 60 per cent of the land suitable for farming being improved.

WOODRUFF.

Woodruff, Oneida Co., is an unincorporated village of about 300 inhabitants located on the C. & N. W., and C. M. & St. P. railroads 279 miles from Milwaukee, 364 miles from Chicago, and 25 miles from Rhinelander. Good facilities for receipt and shipment of freight. Four passenger trains daily. American Express.

Wood procured from the immediate vicinity is the fuel used. A 100 horse water power can be developed here. An abundance of timber, stone, sand and vegetables can be supplied and other raw materials can be procured at reasonable transportation rates. This village is supplied with 2 grocery stores, a drygoods store, barber shop, confectionery, a blacksmith shop, 1 hotel, 2 boarding houses. Hundreds of people from Chicago, Milwaukee and other cities come annually to spend their summer vacations in the lake region of northern Wisconsin. A boat factory and a first-class hotel would do well here. An electric light plant is also desired.

The soil in this section of the state is sandy and but little of the land is improved.

OUTAGAMIE COUNTY.

Outagamie county is located in the northeastern part of the state directly north of Lake Winnebago. The area is 684 square miles. The population in 1905 was 49,015, a gain of 2,768 over 1900. Nearly one-fifth of the population is of foreign birth, of which number about 70 per cent are Germans. About 75 per cent of the county is occupied for farming, 327,669 acres being devoted to that purpose in 1905, of which acreage 206,275 acres were improved. In 1890 the total farm acreage and the amount of improved land were 277,394 acres and 167,506 acres respectively. The valuation of such lands including improvements increased from \$8,603,850 in 1890 to \$17,328,564 in 1905 or practically one hundred per cent.

The surface of the county is rolling except along the rivers and tributaries which break the land into ridges, hills and valleys. About two-thirds of the county is covered with clayey loams derived from the red locustrine clays, similar to the red clay soil in Douglas, Ashland and Brown counties. This is the heaviest soil in the state and of very fine texture making it rather impervious to air and water but with intelligent treatment seeking to establish a more open texture, excellent crops are produced. The northwestern part of the county possesses a light clayey loam through which occur occasional small areas of sand and sandy loams. Irregular areas of humous soils, composed mainly of muck and peat, are found throughout the county. The chief crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	22,009	1,769
Oats	31,478	53,553
Barley	3,957	19,879
Rye	4,191	2,276
Corn	11,908	17,294
Potatoes	2,824	3,392
Hay	37,400	43,584

The county is rapidly developing as a dairy center. In 1905 there were 65 cheese factories, 10 creameries and 4 skimming stations with its borders. The range of prices for unimproved farm lands which can be made tillable, varies from \$15 to \$25 per acre. Unimproved lands of not so good a quality can be had at \$7 per acre. Improved farm lands range in price from \$75 to \$80 per acre. Appleton is the county seat. The following table shows the population of the local political divisions in 1905:

OUTAGAMIE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Appleton, city:									
ward 1.....	730	1,504	1,776	3,280	3,277	.....	3	28	608
ward 2.....	617	1,346	1,552	2,898	2,894	4	.....	29	653
ward 3.....	725	1,573	1,794	3,367	3,350	12	5	14	567
ward 4.....	349	886	953	1,839	1,839	.....	.....	7	270
ward 5.....	674	1,478	1,501	2,979	2,976	3	.....	20	558
ward 6.....	571	1,295	1,342	2,637	2,633	3	1	16	468
Total, city, 17,000									
Black Creek	181	485	456	941	941	.....	.....	1	162
Black Creek, village..	111	244	242	486	486	.....	.....	10	73
Bovina	146	393	283	676	675	.....	1	8	139
Shiocton, village	119	246	245	491	491	.....	.....	11	89
Buchanan	402	1,256	1,041	2,297	2,297	.....	.....	1	439
Center	261	739	627	1,366	1,366	.....	.....	5	235
Cleero	221	618	514	1,132	1,132	.....	.....	4	187
Dale	311	678	629	1,307	1,307	.....	.....	24	266
Deer Creek	190	600	527	1,127	1,127	.....	.....	3	187
Welcome, village	72	164	172	336	336	.....	.....	7	48
Ellington	241	677	593	1,270	1,270	.....	.....	18	259
Freedom	287	815	798	1,613	1,613	.....	.....	4	343
Grand Chute	316	936	829	1,765	1,763	1	1	4	29
Greenville	237	702	565	1,267	1,267	.....	.....	10	261
Hortonia	127	350	300	650	650	.....	.....	4	131
Hortonville, village ...	226	467	433	890	890	.....	.....	31	154
Kaukauna	183	399	316	715	715	.....	.....	10	144
Little Chute, village...	226	653	567	1,220	1,220	.....	.....	2	243
*Kaukauna City	1,021	2,547	2,444	4,991	4,990	.....	1	23	954
Liberty	120	315	280	595	595	.....	.....	3	117
Maine	147	364	323	687	686	2	.....	7	129
Maple Creek	134	367	330	697	697	.....	.....	10	163
†New London, city:									
ward 3.....	147	344	331	675	675	.....	.....	.....	113
Osborn	118	301	276	577	577	.....	.....	3	83
Seymour	226	626	559	1,185	1,185	.....	.....	10	209
Seymour, city	262	572	516	1,118	1,117	1	.....	16	20
Vandenbrook	120	373	352	725	725	.....	.....	2	111
West Oneda	252	652	564	1,216	42	.....	1174	14	243
Total	10,020	24,955	24,060	49,015	47,803	25	1187	356	9,063

*Wards not given.

†For total see Waupaca county.

APPLETON.

Appleton, Outagamie Co. Population, 17,000. 100 miles from Milwaukee, 127 miles from Madison and 185 miles from Chicago. C. & N. W. and C. M. & St. P. Ry's. Electric railway connections with all cities on the Fox River. The Fox river is navigable to Lake Winnebago. Waterworks. Telephone system. Gas and electric light plants. Western Union and Postal telegraph. American and United States Express. County seat.

The Fox river within the city limits of Appleton develops one of the most extensive water powers in the state of Wisconsin. Nearly all of this power is being utilized by factories but there is sufficient unutilized power for another manufacturing concern. Any kind of manufacturing is suitable for this city. Clay, sand and limestone can be furnished in large quantities.

Vegetables and sugar beets are extensively grown. Owing to its immense water power, Appleton is becoming one of the most important manufacturing cities in the state. In 1905 there were located in this city 108 factories with an aggregate capitalization of \$6,833,493; employing 2,486 wage earners and having an annual product of \$6,672,457. Manufacturing in this city has shown a very rapid growth during the last five years. The principal industries are the manufacture of paper and pulp, toys, felts, knit goods, sash, doors and blinds, furniture and bank fixtures. Appleton is the center of one of the largest paper manufacturing districts in the west. There are two unoccupied manufacturing plants in this city, one a canning factory and the other a watch factory. Appleton is also an educational center being the seat of Lawrence University. There are 29 physicians, 31 lawyers; 100 teachers are employed in the public schools. There are 6 hotels with accommodations for about 500 persons.

BLACK CREEK.

Black Creek, Outagamie Co. Population, 430. An incorporated village located on the Green Bay & Western Ry., in the north central part of the county, 16 miles north of Appleton, 24 miles from Green Bay, 145 miles from Milwaukee and 230 from Chicago. United States Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has good streets covered with crushed stone, shade trees, private park of 5 acres, a volunteer fire department, a hotel, graded public school employing 3 teachers, 5 churches, 2 physicians, bakery, meat market, 3 blacksmith shops, cheese box factory, water tank and casing factory, and a lumber yard.

A good hotel is needed. Good location for canning or shoe factory or flour mill.

There is an undeveloped water power here. Wood is used for fuel, obtained from the surrounding country. All kinds of vegetables can be supplied for canning. There is plenty of clay, sand, peat, stone and timber in the vicinity. Help can be secured in the village.

The adjoining country is good for farming purposes and a large per cent of the land suitable for crop raising is improved. The soil is a clayey loam, the land is rolling and some swampy. Vegetables, small grain, corn and potatoes are the principal crops.

DALE.

Dale, Outagamie Co. Population, 350. An unincorporated village located on the Wis. Central Ry., in the southwestern part of the county, 14 miles west from Appleton, the county seat, 11 miles from Menasha, 29 miles from Oshkosh, 105 miles from Milwaukee and 190 miles from Chicago. Telegraph and telephone. National Express. Good shipping facilities and passenger service.

The village is supplied with a bank, drug store, 1 hardware and 4 general merchandise stores, 3 small hotels, 2 boarding houses, graded school employing 2 teachers, 2 churches, a weekly newspaper, 2 physicians, 3 carpenter shops, meat market, blacksmith shop, 1 grain elevator, a grist mill and a cheese and butter factory. The village is in need of a cheese box factory, lime kiln, gents' furnishing and shoe store, jeweler, bakery and restaurant, farm implement and machinery dealer.

The village can be supplied with clay, sand, stone, peat and timber. Plenty of help can be secured here to work all of the time. Steam power is used.

This section is a first class farming country and about 15 per cent of the land suitable for crop raising is improved. The soil is fertile and the land is level and free from stone.

HORTONVILLE.

Hortonville, Outagamie Co. Population, 800. An incorporated village located on the C. & N. W. Ry., in the southwestern part of the county, 12 miles northwest of Appleton, 26 miles from Oshkosh, 60 miles from Manitowoc, 107 miles from Milwaukee and 192 miles from Chicago. American Express. Telegraph and telephone. Good shipping facilities and passenger service.

Is a thriving village with wide streets, shade trees, cement walks, a fire department, a bank, 1 drug store, 3 groceries, 2 hardware and 2 general stores, a shoe store, good high school employing 8 teachers, Catholic and Lutheran parochial schools, 1 hotel, 3 boarding houses, 3 physicians, 1 lawyer, farm machinery dealer, harness shop, 3 wagon and blacksmith shops, planing and saw mill, flour mill, a brewery and a creamery. A weekly newspaper is published. Wood and coal are used for fuel. There is some wood in the vicinity and coal is obtained from Oshkosh or Green Bay. Plenty of help can be secured. There are openings in this village for canning and condensed milk factory, pickle salting station, brick yard, cement block factory and woodenware factory.

The village is located in a fine farming country and about all of the land suitable for crop raising is improved. The land is all level and free from stone. The low lands or bottoms are used for pastures.

KAUKAUNA.

Kaukauna, Outagamie Co. Population, 4,991. 7 miles from Appleton, 22 miles from Green Bay, 60 miles from Sheboygan and 112 miles from Milwaukee. C. & N. W. Ry. Electric railway to Oshkosh and to Green Bay. Telephone system. Electric light plant. Western Union and Postal Telegraph. American Express.

Kaukauna is located on the Fox river which is one of the most completely developed water power streams in the state of Wisconsin. There is a very abrupt fall in the river at this place developing some very extensive water power not all of which is utilized. Manufacturers can lease power in this city at very reasonable rates. Owing to the extensive water power, paper and pulp manufacturing are the leading industries. Any kind of manufacturing can be economically conducted at this place. Such raw materials as sand, clay and timber can be obtained in abundance. Vegetables and sugar beets could also be furnished in large quantities. The division shops of the C. & N. W. Ry., which employ a large number of men are located in this city. There are 9 physicians and 4 lawyers located here. 25 teachers are employed in the public schools. Two weekly papers are published.

Kaukauna has gained a considerable reputation as a summer resort. There are two hotels and a number of boarding houses which furnish adequate accommodations.

LITTLE CHUTE.

Little Chute, Outagamie Co. Population, 1,220. An incorporated village located on the Fox river and the C. & N. W. Ry., in the southeastern part of the county, 5 miles northeast of Appleton, the judicial seat, 23 miles from Green Bay, 131 miles from Madison, 107 miles from Milwaukee and 192 miles from Chicago. American Express. Telephone and telegraph. Extra good shipping facilities and passenger service. Electric railway connections.

The village is lighted by electricity, has 1 bank, 3 grocery stores, 1 hardware store, 1 dry goods store, 2 laundries, 2 hotels, 3 boarding houses, high school employing 9 teachers, churches, 1 physician, grain elevator, lumber yard, flour mill, 2 paper mills and a pulp mill.

There is a water power here not all utilized. Coal for fuel is shipped from Green Bay. Fruit and vegetables can be supplied for canning purposes and clay, sand and stone are the

natural products. Plenty of help can be secured here to work the entire year. This is a good location for any kind of manufacturing industries.

All the suitable farming lands in the surrounding country are improved.

SEYMOUR.

Seymour, Outagamie Co. Population, 1,118. An incorporated city located on the Green Bay & Western Ry., in the northeastern part of the county, 17 miles east of Green Bay, 20 miles north of Appleton, 146 miles from Milwaukee and 231 miles from Chicago. United States Express. Telephone and telegraph. Good shipping facilities and passenger service.

The city is supplied with water from wells, is lighted by electricity, has 2 banks, 2 drug stores, 3 grocery stores, 3 hardware and 5 general stores, 2 hotels, 2 boarding houses, high school employing 10 teachers, churches of the leading religious denominations, 2 furniture stores, 1 shoe store, 4 physicians, 1 lawyer, 2 bakeries, 2 harness shops, 2 meat markets, 3 flour and feed stores, a flour mill, 3 millinery stores, 2 photographers, a canning factory, saw mill, woodenware factory and a creamery. A weekly newspaper is published.

Steam power is used here. Wood and coal are the fuels used. Wood is obtained from the locality and coal from Green Bay. The city can be supplied with clay, sand and lime stone. Help can be secured in the city. This is a good location for a starch factory.

The surrounding country is a rich agricultural section, and seven-eighths of the land suitable for crop raising is improved. A large per cent of the land is level and free from stone with a little swamp and sand.

SHIOCTON.

Shiocton, Outagamie Co. Population, 491. An incorporated village located on the Green Bay & Western Ry., and on the east branch of Wolf river, 28 miles from Appleton, the county seat, 31 miles from Green Bay, 114 miles from Milwaukee, and 199 miles from Chicago. United States Express. Telephone and telegraph. Good shipping facilities and passenger service.

The village has macadamized streets, shade trees, 1 bank, a drug store, 3 groceries, 1 hardware, 2 general and 3 dry goods stores, one clothing store, 1 furniture store, 2 hotels, graded public school employing 3 teachers, a business college, Catholic, Congregational and Lutheran churches, 2 physicians, 1 dentist, 1 meat market, jewelry shop, 1 bargain store, harness shop, bakery, blacksmith shop, grist mill and woodworking shop. A weekly newspaper is published.

Wood is used for fuel obtained from the adjacent country. Fruit, vegetables, corn and beans can be furnished in sufficient quantities for canning. Clay, peat and timber are the natural products. There are large quantities of maple, ash and elm timber on the Wolf river flats. Any amount of help can be secured here.

The following industries are needed in the village: Cheese box, vegetable and berry box and bent wood factories, machine shop and foundry, brick yard, electric light plant, potato warehouse, canning and pickling factories and cooper shop.

About 10 per cent of the land suitable for crop raising is improved. The land is mostly level and free from stone and but little sandy soil.

OZAUKEE COUNTY.

Ozaukee county is located in the southeastern part of the state and borders on Lake Michigan. It is a small county with an area of but 226 square miles. The population in 1905 was 17,476, a gain of 1,113 over the census of 1900. About one-fifth of the population is foreign born, of which number a large majority are Germans. In 1890 the total area devoted to agricultural purposes was 141,233 acres, of which amount 102,275 acres were improved. This acreage represented practically all the available land in the county. The value of the farms including improvements has increased from \$8,603,-850 in 1890 to \$11,133,205 in 1905. The surface of the county is rolling and somewhat hilly, especially in the western part. The surface has been modified by glacial erosion and deposition and also by river erosion. The soil in the eastern part of the country extending several miles from the lake shore is a heavy red clayey loam derived from the red locustrine clays. Covering the western part of the county the soil is a heavy clayey loam and very fertile. A small strip of land in the northeastern part and bordering on Lake Michigan is covered with a sandy loam. The western part contains numerous hills composed mainly of boulders, clay and limestone gravel. The surface of this portion is also strewn with boulders. The principal farm crops and the acreage devoted to each in 1890 and in 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	14,384	16,901
Barley	3,094	1,771
Rye	3,094	1,771
Corn	3,226	4,471
Clover seed	3,994	2,369
Hay	24,544	22,628

This county has a well developed dairy industry, there being 24 cheese factories and 6 creameries to take the milk supply. An increasing acreage is being annually devoted to the raising of sugar beets. The only unimproved land in the county consists of a small tract owned in connection with improved land. Such lands average in price about \$40 per acre. Improved land ranged in price from \$75 to over \$100 per acre. Port Washington is the county seat. The population of the cities, towns and villages of the county in 1905 was as follows:

OZAUKEE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPU- LATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Belgium	282	834	763	1,597	1,597	.....	.....	6	337
Cedarburg	316	742	696	1,437	1,437	.....	.....	2	235
Cedarburg City	341	822	858	1,680	1,680	.....	.....	16	246
Fredonia	315	854	779	1,633	1,633	.....	.....	12	350
Grafton	186	583	471	1,054	1,054	.....	.....	4	195
Grafton, village	124	256	264	520	520	.....	.....	7	92
Mequon	552	1,462	1,270	2,732	2,732	.....	.....	10	493
Port Washington	209	647	645	1,292	1,192	.....	.....	4	151
*Port Washington, city.	776	2,292	1,744	4,036	4,036	.....	.....	14	1,225
Saukville	307	824	771	1,595	1,595	.....	.....	8	275
Total	3,398	9,316	8,160	17,476	17,476	.....	.....	83	3,629

*Wards not given.

SAUKVILLE.

Saukville, Ozaukee Co., is an unincorporated village of about 350 inhabitants located on the C., M. & St. P. Ry., 28 miles from Milwaukee and 113 miles from Chicago. Telephone and telegraph. Good facilities for receipts and shipment of freight. Four passenger trains daily. United States Express.

A two hundred horse water power can be developed here. About 150 laborers can be procured for factory work. Such raw materials as fruit, vegetables, clay, timber, peat and stone can

be supplied. The village is supplied with 3 general stores, a laundry, meat market, feed mill, livery stable, 2 blacksmith shops, a grain elevator, a creamery, coal and lumber yard, 4 hotels, a physician, a public school employing 5 teachers, and a public park.

About three-fourths of the land in the vicinity of this village suitable for farming is improved. About one-eighth swampy, one-eighth sandy, the remainder excellent farming land.

THIENSVILLE.

Thiensville, Ozaukee Co., is an unincorporated village of about 350 people, located on the C., M. & St. P. Ry., 18 miles from Milwaukee and 103 miles from Chicago. Facilities for receipt and shipment of freight good. Five daily passenger trains. Telephone and telegraph. United States Express.

In this village there is about 100 horse undeveloped water power. Coal is shipped from Milwaukee. Such raw materials as clay, sand, stone, gravel and vegetables can be supplied, and 175 laborers procured. An electric railroad is soon to be built connecting this village with Chicago, Milwaukee and other cities. This village is supplied with 2 groceries, a hardware store, lumber and coal yards, printing office, brick and tile factory, flour mill, harness shop, 3 hotels, 1 physician and a graded school of 3 departments. The streets are well kept and the village has an abundance of shade trees.

About 90 per cent of the land surrounding this village suitable for farming is improved. About 25 per cent of the land is somewhat stony, 5 per cent marshy, 25 per cent sandy and 45 per cent level and free from sand, stone, or swamps.

GRAFTON.

Grafton, Ozaukee Co., is an incorporated village having 520 inhabitants, located on the C. M. & St. P. Ry., 24 miles from Milwaukee and 106 miles from Chicago. Four passenger trains daily. Good facilities for receipt and shipment of freight. Telephone and telegraph. United States Express.

Coal is shipped from Milwaukee. Such raw materials as fruit, vegetables, clay, sand, and limestone can be supplied and 100 laborers procured. A canning factory, cucumber salting station or tannery is best suited for the place. An electric light plant is also needed. The village has 3 groceries, 2 general stores, a hardware, brewery, lime kiln, an establishment manufacturing steam fitting supplies, 2 woolen factories, flour mill, saw mill, creamery, lumber yard, 3 hotels, 3 boarding houses, and two physicians.

All the surrounding farm lands near the village are improved. The soil is a clayey loam and excellent for general farming.

PORT WASHINGTON.

Port Washington, Ozaukee Co., is a city of 4,036 inhabitants, located on the C. & N. W. Ry., 111 miles from Chicago and 26 miles from Milwaukee. It has 10 passenger trains daily. Good facilities for receipt and shipment of freight. Telephone and telegraph. American Express.

Coal shipped by lake is the principal fuel used. Such raw materials as fruit vegetables, and clay for tile and brick can be supplied, and help procured. The village is supplied with an electric light plant, a bank, 2 drug stores, 5 groceries, 3 hardwares, 1 department store, 4 dry goods stores, 1 laundry, 2 clothing stores, 2 harness shops, 5 shoe stores, 5 cigar factories, 3 jewelry stores, 3 meat markets, 3 hotels, 5 boarding houses, 5 physicians, 5 lawyers and a high school employing 20 teachers.

CEDARBURG.

Cedarburg, Ozaukee Co., is a city having a population of 1,680; is located on the C. M. & St. P. Ry., 22 miles from Milwaukee and 107 miles from Chicago. Telegraph and telephone. Excellent facilities for receipt and shipment of freight. Five passenger trains daily. United States Express.

Such raw material as clay, sand, stone, fruit and vegetables can be supplied. Coal is shipped from Milwaukee. A foundry is best suited for the place. The city is soon to have electric railroad communications with Milwaukee, Chicago and other cities. A willow-ware factory was established here at one time but failed on account of poor management. This place is already supplied with an electric light plant, a bank, drug store, 5 groceries, 2 hardwares, 4 dry goods stores, a laundry, a wire nail factory, woolen mills, a shoe factory, a sash and door factory, 1 attorney at law, and a weekly newspaper, high school employing 13 teachers. The streets are paved, well provided with shade trees, and the city is a summer resort town.

The surrounding country comprises some of the best farming lands of the state and is well adapted for general farming and market gardening.

PEPIN COUNTY.

Pepin county is located in the west-central part of the state on the Mississippi river. It is one of the smallest counties in the state with an area of 238 square miles. The population in 1905 was 7,569, of which number 1,387 were of foreign birth. The principal nationalities represented were Swedes, Austrians and Germans. The total farm area in 1905 was 120,844 acres, of which only 62,395 were improved. In 1890 the total farm area was 113,578 acres with 58,082 acres improved. The valuation of the farms including improvements in 1905 was \$4,305,760 as compared with \$1,486,750 in 1890, showing a gain for the period of \$2,819,010. The western part of the county adjacent to the Mississippi and Chippewa rivers consists of high rolling ridge land intersected in all directions with deep ravines and valleys often bordered with precipitous cliffs, the elevations of the ridges above the valleys being over 300 feet. The soils in the western part are mainly light clayey loams, with the exception of a strip several miles wide along the Mississippi river. The forest trees of this region are mainly hardwood in which elm, maple, oak and basswood predominate. The eastern part of the county is not as rough as the western but is still of a rugged character. The soil of this region is a light and easily worked sandy loam, being a continuation of the sandy loams of Eau Claire, Trempealeau and Dunn counties. There are a few irregular areas of prairie soils in the central part of the county. The chief crops of the county and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	7,402	1,810
Oats	7,175	13,489
Barley	1,529	8,924
Rye	2,066	2,198
Corn	9,803	9,746
Hay	11,376	10,083

As yet, the dairy industry remains largely undeveloped. There are no cheese factories in the county, and only 3 cream-

eries and 2 skimming stations, but interest in this field is increasing. For unimproved land which can be made tillable, the price ranges from \$10 to \$20 per acre, and there is but little to be had. For improved farms the price ranges from \$40 to \$75 per acre. Durand is the county seat. The following table shows the population statistics of the cities, villages and towns of the county for 1905:

PEPIN COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.				Ex soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.			
Albany	117	325	287	612	612	.....	.....	.....	2	109
Durand	59	134	113	247	247	.....	.....	.....	2	46
Durand, city:										
ward 1	137	280	283	563	563	.....	.....	.....	.....	.....
ward 2	192	371	425	796	796	.....	.....	.....	.....	.....
Total, city, 1,359									23	233
Frankfort	189	474	414	888	888	.....	.....	.....	12	153
Ilma	135	402	361	763	763	.....	.....	.....	.....	136
Pepin	226	557	514	1,071	1,071	.....	.....	.....	2	189
Pepin, village	94	198	200	398	398	.....	.....	.....	8	64
Stockholm	90	215	181	396	396	.....	.....	.....	2	77
Stockholm, village	61	117	127	244	244	.....	.....	.....	1	33
Waterville	294	741	75	1,446	1,446	.....	.....	.....	16	244
Waubeck	28	78	67	145	145	.....	.....	.....	2	29
Total	1,622	3,892	3,677	7,569	7,569	.....	.....	.....	71	1,311

ARKANSAW.

Arkansaw, Pepin Co. Population, 250. An unincorporated village located on the Eau Galle and Eau Claire rivers 4 miles from Durand, the county seat, banking and shipping point; 48 miles from Chippewa Falls, and 87 miles from La Crosse. Has telephone connections.

Has electric plant, 1 drug store, 1 hardware and 2 general stores, 1 hotel, 2 boarding houses, good school employing 2 teachers, a church, 1 physician, 1 lawyer, meat market, blacksmith shop, and a planing mill. A first class hotel is needed.

Wood is used for fuel, obtained from the nearby forests. Vegetables could be supplied for canning and cucumbers for a salting station. Sandstone and timber are the natural products, Plenty of help can be secured.

The surrounding country is good for farming and only about 50 per cent of the land suitable for crop raising is improved. About 35 per cent of the country is rough, and 15 per cent sandy.



A NORTHERN WISCONSIN FARM. •

DURAND.

Durand, Pepin Co. Population, 1,359. An incorporated city located on the C., M. & St. P. Ry., and one the Eau Claire river, in the north central part of the county of which it is the county seat; 44 miles from Eau Claire, 79 miles from La Crosse, 135 miles from Minneapolis, and 277 miles from Milwaukee. United States Express. Telephone and telegraph. Good shipping facilities and passenger service.

The city is located on the east bank of the Chippewa river, has wide level and well kept streets, shade trees, brick and stone business blocks, is lighted by electricity, has 2 banks, 2 drug stores, 5 groceries, 3 hardware, 4 general merchandise, and 3 drygoods stores, 2 furniture stores, 4 feed stores, 2 jewelry shops, 6 hotels, 5 boarding houses, high school employing 11 teachers, parochial schools, 4 churches, a free public library, 2 restaurants, 3 harness shops, a brewery, cigar factory, brick yard and 3 weekly newspapers. A \$35,000 steel bridge spans the Chippewa river at this point.

There is water power here not utilized estimated at 1,000 horse power. Also an electric power for manufacturing purposes. Wood is used for fuel, obtained from the surrounding country. Fruit and vegetables can be supplied for canning. There are large quantities of clay, sand, stone, peat and timber in the vicinity. Plenty of help can be secured to work the entire year. This is a good location for a woodenware or furniture factory, or packing house.

The city is located in a good farming country and only about 60 per cent of the land suitable for crop raising is improved. About 50 per cent of the land is swampy, 15 per cent sandy, but the most of it is level and free from stone. Stock raising and dairying is the chief industry. The country is well supplied with creameries and the shipment of butter and eggs amounts to \$250,000 annually. Unusually large shipments of live stock are made from this point.

STOCKHOLM.

Stockholm, Pepin Co. Population 244. An incorporated village located on the C., B. & Q. Ry., in the southwestern part of the county; 27 miles from Durand, the county seat; 69 miles from Minneapolis, 75 miles from La Crosse and 71 miles from Chippewa Falls. Adams Express. Telephone and telegraph. Good shipping facilities and passenger service.

Has 2 general stores, 1 hotel, graded school employing 3 teachers, 1 physician, 2 blacksmith shops, wagon shop, feed mill and harness shop.

There is plenty of timber on the adjacent land for fuel. Fruit, vegetables and fish can be supplied for canning. The village can

be supplied with sand and stone. A limited amount of help can be secured in the vicinity.

A large per cent of the surrounding country is good for farming and about 2-3 of the land suitable for crop raising is improved.

PIERCE COUNTY.

Pierce county is located in the west central part of the state on the Mississippi river. It has an area of 543 square miles, supporting a population of 23,433 in 1905. About 20 per cent of the population is of foreign birth, Norwegians and Swedes largely predominating. There are also many German settlers. The total area of the farms in 1905, which included practically all the tillable land in the county, was 329,065 acres, of which 189,498 acres were improved. In 1890 the total farm area was 278,811 acres with 158,756 acres improved. A large increase has taken place in the valuation of farm lands. In 1890 the total value was \$5,780,860, while in 1905 this had increased to \$11,857,836, showing a gain of \$6,076,976, or 105 per cent in 15 years. The surface of the county is rolling and hilly. It is especially rough along the Mississippi river where the surface is intersected by numerous deep ravines and valleys often bordered with high precipitous cliffs. The soil covering the larger part of the county through the southern and western portions is a clayey loam of the lighter varieties. This soil yields excellent results with grasses, grain and corn, but is a little too coarse to prove the best wheat land. It is a good potato soil, especially where this type shades into the sandy loams. Along the Mississippi river the soil is generally sandy. Extending down from St. Croix county on the north and into the central part of the county, is a broad belt of loamy clay. This is a heavy soil, and quite uniform in texture and composition. The deep weathering of this soil, together with an abundance of decayed organic material, make it of especial value to agriculture and place it upon an equal rank with the richest farm lands in the Mississippi valley. Every acre of land can be cultivated. All farm crops succeed well, but this soil offers the greatest opportunity in the dairy and stock growing industries. The drainage of the county is uniformly good, and swamps and lakes

are nowhere to be found. The leading crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	16,317	4,847
Oats	26,732	49,138
Barley	8,890	35,023
Rye	7,241	4,789
Corn	16,411	15,873
Hay	34,501	34,763

In 1905 there were 4 cheese factories, 8 creameries and 6 skimming stations in the county. Sheep raising is also one of the leading industries. Most of the unimproved land which can be made tillable consists of tracts owned in connection with improved lands. The average price for such unimproved lands is about \$20 per acre. Improved farms range in price from \$45 to \$75 per acre. Ellsworth is the county seat. The population of the cities, villages and towns of the county for 1905 will be found on the following page.

BAY CITY.

Bay City, Pierce Co. Population, 150. An unincorporated village located on the C., B. & Q. Ry., and on the Mississippi river in the southern part of the of the county, about 13 miles south of Ellsworth, the county seat, 8 from Malden Rock, the nearest banking point, 55 from Minneapolis, and 89 from La Crosse. Adams Express. Telephone and telegraph. Good shipping facilities and passenger service.

The village is located at the head of Lake Pepin, and could be made a fine summer resort. Has 1 hardware and 2 general stores, 1 hotel, 1 boarding house, graded school employing 2 teachers, 1 physician, 1 blacksmith and repair shop, gasoline boat factory, saw mill, shingle mill, and 2 grain elevators.

Wood is used for fuel, obtained from the adjacent country. Fruit, vegetables, fish and corn can be supplied for canning. Clay, sand, timber and building stone are the natural products. Help can be secured here. A good location for a canning factory, lime kiln and brick yard.

The village is located in a good farming section and about 75 per cent of the land suitable for crop raising is improved.

PIERCE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Clifton	128	355	307	662	662	.....	.....	5	145
Diamond Bulff	114	257	241	498	498	.....	.....	6	102
Ellsworth	267	693	655	1,348	1,348	.....	.....	8	228
Ellsworth, village	247	522	538	1,060	1,060	.....	.....	23	225
El Paso	206	619	459	1,078	1,078	.....	.....	3	214
Gilman	238	672	561	1,233	1,233	.....	.....	7	210
Hartland	251	621	523	1,144	1,144	.....	.....	4	215
Isabelle	98	232	202	434	434	.....	.....	3	89
Martell	239	651	560	1,211	1,211	.....	.....	11	198
Malden Rock	245	618	491	1,109	1,108	1	.....	2	206
Malden Rock, village..	80	153	170	323	323	.....	.....	9	52
Oak Grove	145	396	351	747	747	.....	.....	5	151
Prescott, city:									
ward 1.....	83	158	168	326	323	3	.....	.....	.....
ward 2.....	81	139	145	284	284	.....	.....	.....	.....
ward 3.....	80	133	146	279	278	1	.....	.....	.....
Total, city, 889								20	134
River Falls	253	624	560	1,184	1,184	.....	.....	14	174
River Falls, city:									
ward 2.....	233	438	569	1,007	1,004	3	.....	16	176
ward 3.....	118	218	274	492	470	2	.....	7	76
ward 4.....	153	265	389	654	654	.....	.....	20	82
Total, city,*2,500									
Rock Elm	231	616	532	1,148	1,148	.....	.....	13	228
Salem	192	485	476	961	961	.....	.....	8	165
Spring Lake	293	733	661	1,394	1,384	.....	.....	14	291
Spring Valley, village.	335	592	511	1,103	1,103	.....	.....	11	230
Trenton	202	492	426	918	918	.....	.....	11	134
Trimble	324	751	661	1,412	1,411	1	.....	32	241
Union	296	717	637	1,404	1,404	.....	.....	13	241
Total	5,152	12,150	11,283	23,433	23,422	11	.....	270	4,218

*Total for Pierce and St. Croix counties.

ELLSWORTH.

Ellsworth, Pierce Co. Population 1,060. 44 miles from St. Paul, 247 miles from Madison and 356 miles from Milwaukee. C., St. P., M. & O. Ry. Good freight and passenger service. Electric lighting plant. Waterworks. Telephone system. Western Union Telegraph. American Express.

Ellsworth is the county seat of Pierce county. There are located here at the present time 3 flour mills, an elevator, a brewery and a creamery. Agricultural products, sand, stone and timber can be furnished in large quantities. There are 2 newspapers, 1 bank and churches of the leading denominations. The hotel accommodations are adequate.

ELMWOOD.

Elmwood, Pierce Co. Population 250. A village located on a branch of the C., St. P., M. & O. Ry., and on the Eau Galle river, in the northeastern part of the county, 22 miles from Ellsworth, the county seat, 15 miles southwest of Menomonie, 63 miles from Eau Claire, 70 miles from Minneapolis. American Express. Telephone and telegraph. Fairly good shipping facilities and passenger service.

Has a bank, 1 drug store, 1 grocery, 1 hardware and 6 general stores, 2 hotels, graded school employing 3 teachers, a Methodist church, a physician, 2 blacksmith shops, meat market, barber shop, bolt factory, 2 saw mills, feed mill, lumber yard and creamery. Better hotel facilities are needed. Such raw material as fruit and vegetables can be supplied for canning, and clay, sand, stone and iron are the natural products. This is a good location for a brick yard.

The village is located in a good farming country, about 20 per cent of the land being level and free from stone. 75 per cent of the land suitable for crop raising is improved.

MAIDEN ROCK.

Malden Rock, Pierce Co. Population, 323. An incorporated village located on the C., B. & Q. Ry., and on the Mississippi river, in the southeastern part of the county, 18 miles southeast of Ellsworth, 63 miles from Minneapolis, 81 miles from La Crosse, and 279 miles from Milwaukee. Adams Express. Telephone and telegraph. Good freight facilities and passenger service.

The village is nicely located, beautiful natural scenery, good streets, is supplied with a bank, 1 drug store, 2 hardware and 4 general stores, 2 hotels, graded public school employing 3 teachers, Methodist church, 1 physician, 2 lawyers, 1 furniture store, 1 millinery store, meat market 3 blacksmith shops, 2 livery barns, 2 grain elevators, and a weekly newspaper. The village is the receiving and shipping point for several small inland towns.

Wood and coal are used for fuel. Wood is obtained from the adjacent country and coal from Illinois. Fish and a limited amount of fruit and vegetables are the raw materials for canning, and timber and large quantities of stone are the natural products. A limited amount of help can be secured here.

The surrounding country is rolling and about all of the land suitable for crop raising is improved. Good soil and no swamps or sand.

PRESCOTT.

Prescott, Pierce Co. Population, 889. An incorporated city located on the C., B. & Q. Ry., and at the confluence of the Mississippi and St. Croix rivers, 12 miles west of Ellsworth the county seat, 38 miles from Minneapolis, and 110 miles from La Crosse. United States Express. Telephone and telegraph. Good shipping facilities and passenger service.

The village has cement walks, fine shade trees, public park, is lighted by electricity, has a bank, 2 drug stores, 2 groceries, 2 hardware and 3 general stores, 2 hotels, 2 boarding houses, graded public schools employing 6 teachers, Catholic, Congregational, Episcopal and Methodist churches, 2 physicians, 1 lawyer, and a weekly newspaper.

There is a good water power 5 miles from the city. Coal is used for fuel obtained from Illinois. Vegetables and fish can be supplied for canning. The natural products are sand, timber and stone. Plenty of help in the city. Good location for flour mill, boat building and repairing and gasoline engine factory.

There are some good farm lands in the adjacent country, but the land along the river is rough. Back from the river the land is rolling with a sandy loam soil.

RIVER FALLS.

River Falls, Pierce Co. Population, 2,300. An incorporated city located on the Ellsworth branch of the C., St. P., M. & O. Ry., in the northern part of the county (one ward of the city lying in St. Croix county), 13 miles from Ellsworth, the county seat, 31 miles from St. Paul, 163 miles from Superior, 19 miles from Eau Claire, 262 miles from Madison, and 364 miles from Milwaukee. American Express. Telephone and telegraph. Fairly good shipping facilities and passenger service.

The city has many fine shade and ornamental trees, a 20 acre public park, gas and electric light plants, 2 banks, 2 drug stores, 6 groceries, 4 hardware and 5 dry goods stores, 1 laundry, 3 large hotels, high and graded public schools, a state normal school, 7 churches representing the leading religious denominations, 5 physicians, 4 lawyers, starch factory, wagon and sleigh factory, tank heater factory, cigar factory, 3 flour and grist mills and a pickle salting station. 2 weekly newspapers are published. Good location for a canning factory or woolen mill.

There is a water power here of which 500 H. P. is not utilized. Wood and coal are used for fuel. Wood is obtained in the vicinity. Clay, sand, stone, timber and iron are the natural products. Plenty of help can be secured here. There is a

fine summer resort on St. Croix lake about 8 miles from the city.

The city is located in a good farming country and about 90 per cent. of the land is improved. About 40 per cent of the country is rough, 50 per cent sandy, and 60 per cent level and free from stone.

ROCK ELM.

Rock Elm, Pierce Co. Population, 200. An unincorporated village in Rock Elm township, 15 miles east of Ellsworth, the county seat, 6 miles from Elmwood the nearest banking and shipping point.

Has a telephone system, 1 drug store, 1 hardware and 2 general stores, 1 milliner store, 1 hotel, 1 boarding house, graded school employing 2 teachers, 1 physician, 1 lawyer, 2 blacksmith shops, wagon shop, flour mill, saw and planing mill and harness shop. Stages daily to Maiden Rock and Spring Valley.

A canning factory is needed here. Wood is used for fuel obtained from the adjacent country. Fruit and vegetables can be supplied for canning. Clay, sand, stone and timber are the natural products. Help can be secured in the village.

The surrounding country has a good clay soil and is mostly level and free from stone. About 75% of the land suitable for crop raising is improved.

SPRING VALLEY.

Spring Valley, Pierce Co. Population 1,103. An incorporated village located on a branch of the C., St. P., M. & O. Ry., in the northeastern part of the county, 21 miles northeast of Ellsworth, the county seat, 63 miles from Minneapolis, 70 miles from Chippewa Falls, 239 miles from Madison and 321 miles from Milwaukee. American Express. Telephone and telegraph. Shipping facilities and passenger service fair.

The village is nicely located in the valley of the Eau Gallie river, has good streets, a few shade trees, good water, is lighted by electricity, has a bank, 2 drug stores, 4 groceries, 2 hardware and 5 general stores, furniture store, clothing store, 3 hotels, high school employing 7 teachers, Catholic, Congregational and Lutheran churches, 2 physicians, 1 dentist, 1 lawyer, 2 millinery establishments, 2 meat markets, harness shop, bakery, tailor shop, 1 photographer, 3 blacksmith shops, 2 barber shops, 2 grain elevators handling flour and feed, 2

lumber yards, 2 livery barns, a foundry, an iron smelter, a spoke, stave and heading plant and a creamery. A weekly newspaper is published.



MAKING THE TIMBER PAY FOR THE LAND AND IMPROVEMENTS IN
NORTHERN WISCONSIN.

There is an undeveloped water power here. Wood is the principal fuel used obtained from the surrounding country. All kinds of vegetables can be supplied for canning. This is considered a good location for a canning factory. The natural products are clay, sand, stone, timber and iron ore. The iron ore is smelted at the local smelter and produces a very good quality of iron for the manufacture of stoves or car wheels. Help can be secured in the vicinity.

This is a good farming section. Soil is a black loam with a clayey sub-soil, no swamps or sand and only a small portion of the land is stony.

POLK COUNTY.

Polk county is located in the northwestern part of the state on the St. Croix river. The area is 933 square miles. The population in 1905 was 20,885, a gain of 3,084 over the returns for 1900. Out of the total population 5,850 are of foreign birth, made up almost entirely of Swedes, Norwegians and Danes. While a large amount of land has been occupied for agricultural purposes the acreage under actual cultivation is relatively small. The total farm acreage in 1905 was 343,498 acres of which only 124,684 acres were improved. In 1890 the farm acreage was 230,379 acres of which only 80,881 acres were improved. The value of the farms and improvements increased during the period from 1890 to 1905, from \$2,827,012 to \$8,204,423, a gain of nearly 200% in 15 years. The surface of the county has been modified by glacial erosion and deposition. It is generally rolling land with occasional stretches of level surface. The county is traversed by a range of hills which run in the northeast-southwest direction. The soils in this county are mainly light clayey loams. In the western part and in the center of the county are acres of heavy clayey loams, while in the northwest and south-central portions occur areas of sand and sandy loams. There is no humus soil, but small lakes of irregular shapes abound. The leading crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	7,720	3,120
Oats	15,406	36,626
Barley	769	4,024
Corn	5,263	6,622
Hay	27,532	47,864
Rye	2,807	1,236

In 1905 there were 5 cheese factories, 22 creameries and 6 skimming stations in the county. The amount of land now occupied for agriculture is less than 60% of the total area of the county, leaving several hundred thousand acres still open to settlement. In general, nearly all of this land is well adapted to general farming and will with ease support a dairy industry as is shown by its growth where the proper interest has been developed. Unim-

proved land can be purchased in large tracts at from \$12 to \$25 per acre. Improved land ranges in price from \$25 to \$75 per acre, according to quality and location. Balsam Lake is the county seat. The following table shows the population of the cities, towns and villages of the county in 1905.

POLK COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Alden	301	814	711	1,525	1,525	.....	.....	4	223
Apple River	105	297	235	532	531	.....	1	2	91
Balsam Lake	191	460	414	874	852	.....	22	8	121
Beaver	104	308	245	553	553	.....	.....	1	100
Black Brook	2 2	525	449	974	984	.....	.....	8	163
Bone Lake	61	126	112	238	238	.....	.....	.....	44
Clam Falls	79	212	162	374	374	.....	.....	5	57
Clayton	176	514	486	1,000	1,000	.....	.....	2	160
Clear Lake	169	439	400	839	839	.....	.....	3	151
Clear Lake, village.....	129	268	240	508	508	.....	.....	16	80
Eureka	240	646	547	1,193	1,182	2	9	7	197
Farmington	178	564	452	1,016	1,016	.....	.....	8	186
Garfield	171	481	427	908	905	.....	.....	2	135
Georgetown	81	211	194	4 5	360	.....	45	3	82
Johnstown	37	97	89	186	186	.....	.....	2	31
Laketown	177	440	380	820	820	.....	.....	1	140
Lincoln	183	544	454	998	998	.....	.....	8	180
Amery, village	169	379	374	753	753	.....	.....	8	140
Loraline	69	169	153	322	322	.....	.....	4	34
Luck	103	297	150	547	547	.....	.....	2	102
Luck, village	77	211	161	372	364	.....	8	2	83
McKinley	53	113	100	213	213	.....	.....	1	42
Milltown	184	455	369	824	812	.....	12	3	127
Osceola	185	483	404	887	887	.....	.....	5	176
Osceola, village	131	286	237	523	573	.....	.....	13	127
St. Croix Falls	127	326	269	595	595	.....	.....	2	105
Centuria, village	65	150	131	281	281	.....	.....	2	62
St. Croix Falls, vill.....	126	337	275	612	612	.....	.....	7	168
Sterling	157	423	346	769	763	.....	.....	12	152
West Sweden	94	277	224	501	501	.....	.....	1	85
Frederick, village	153	379	304	683	683	.....	.....	1	197
Total:	4,289	11,241	9,644	20,885	20,786	2	97	144	3,736

AMERY.

Amery, Polk Co. Population 753. An incorporated village located on the M., St. P. & S. Ste. M. Ry., in the southeastern part of the county, and on Apple river a water power stream, 12 miles from Balsam Lake, the county seat, 63 miles from Minneapolis, 120 miles from Superior, and 131 from Ashland. Western Express. Telephone and telegraph. Shipping facilities and passenger service good.

The village has a good system of public water works for domestic use and fire protection, is lighted by electricity, has 2 banks, 1 drug store, 2 hardware and 5 general merchandise stores, 2

hotels, good high school employing 7 teachers, Catholic, Congregational, Norwegian and Swedish Lutheran churches, furniture store, restaurants, blacksmith shops, meat markets, harness shops, tailor shops, millinery store, music store, a photographer, opera house, feed mill, fur tannery, brick yard and a creamery. A weekly newspaper is published.

The village can be made a summer resort. There are numerous lakes in the vicinity. Lake Wapagasset, one of the most picturesque bodies of water in the surrounding country, is located $1\frac{1}{2}$ miles from the village, affording excellent boating and fishing and fine natural scenery. A large first class hotel is needed.

Apple river will furnish an abundance of water power. Fruit and vegetable can be supplied for canning. Plenty of help can be secured in the village and adjacent country.

This is a good farming country and only about one-half of the land suitable for crop raising is improved. The country is rolling with but very little waste or poor lands. Soil is fertile and quite free from stone. Dairying and stock raising are the chief occupations.

BALSAM LAKE.

Balsam Lake, Polk Co. Population 300. The county seat of Polk county is located on the Balsam branch of Apple river and on Balsam Lake, in the central part of the county, 20 miles northeast of Osceola, and 5 miles from Centuria the nearest shipping point. Has telephone connections. Stage daily to St. Croix Falls.

The village is a favorite summer resort. Two club houses and several cottages dot the shore of the lake and hundreds of tourists spend the season here. The village was incorporated in 1905. Has county buildings erected at a cost of \$35,000, a bank, 1 hardware store, 2 general stores, 2 hotels, graded public school employing 3 teachers, a physician, a large flouring mill and a saw mill. A weekly newspaper is published.

Fruit and vegetables can be furnished for canning. There are large quantities of clay, sand, stone and timber in the vicinity. There is a large water power located near the head of the outlet of Balsam lake, estimated at 1,000 H. P. A dam is built across the river with a fall of from 12 to 15 feet. Only about 175 H. P. is used at present. Wood is used for fuel, obtained from the surrounding country. Plenty of available help in the village and adjoining country. Good location for mercantile or manufacturing industries.

The village is surrounded by a good farming country and about 75 per cent of the land suitable for crop raising is improved. The soil is a sandy loam with clayey subsoil, 10 per cent stony, a small part swampy or sandy and 50 per cent level and free from stone. Dairying is an important industry.

CENTURIA.

Centuria, Polk Co. Population 281. An incorporated village located on the Frederic branch of the M., St. P. & S. Ste. M. Ry., in the western part of the county, 5 miles from Balsam Lake, 65 miles from Minneapolis, and 148 from Superior. Western Express. Telegraph and telephone. Fairly good shipping facilities and passenger service.

The village is supplied with a bank, 2 hardware stores, 2 general stores, 1 implement and feed store, 1 grocery store and restaurant, 1 boarding house, good graded school, a church, 1 physician, grain warehouse, 2 blacksmith shops, 1 heading mill and a combination saw, planing and feed mill. The following business opportunities exist and would be profitable: Hotel, drug store, furniture factory, trunk factory and starch factory.

There is no water power here but electrical power can be obtained from St. Croix Falls, 6 miles distant. There is a great deal of hardwood timber in the surrounding country.

The village is surrounded by a good farming country and is quite thickly settled. The soil is a sandy loam and large crops of potatoes are produced.

CLEAR LAKE.

Clear Lake, Polk Co. Population 508. An incorporated village located on the C., St. P., M. & O. Ry., in the southeastern part of the county, 30 miles from Balsam Lake, the county seat, 63 miles from Minneapolis, 119 miles from Superior, and 130 from Ashland. American Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has graded streets and good walks, shade trees in the residence portion, village hall, a bank, drug store, 1 hardware, 2 groceries and 3 general stores, a clothing store, furniture store, graded public school employing 5 teachers, 2 churches, 3 physicians, 1 lawyer, 2 hotels and a boarding house, harness shop, 3 blacksmith shops, and a creamery. A weekly newspaper is published. This is a first-class location for a brick and tile factory, canning and condensed milk factories.

Steam power is used here. Wood is used for fuel, obtained from the adjacent land. Deposits of lead and iron ore

have been recently discovered in the adjacent country. Only a limited amount of help can be secured in the village.

The surrounding country is good for farming and only about 35% of the land, suitable for crop raising, is improved. 75 per cent of the land is level and free from stone, 10% rough, 10% stony and 5% swampy. Dairying and stock raising are chief occupations. The creamery in the village receives about 3,000 pounds of milk and 1,500 pounds of cream daily, besides there is a large amount shipped to other points. About 5,000 cords of hardwood, and from 3,000 to 4,000 tons of hay are shipped annually.

FREDERIC.

Frederic, Polk Co. Population 683. An incorporated village located at the terminus of the Frederic branch of the M., St. P. & S. Ste. M. Ry., in the extreme northern part of the county, 18 miles north of Balsam Lake, the judicial seat, 82 miles from Minneapolis, 164 miles from Superior, and 175 miles from Ashland. Western Express. Telegraph and telephone connections. Fairly good shipping facilities and passenger service.

The village has wide streets, 2 public parks under construction, is supplied with a bank, drug store, 1 grocery, 2 hardware, 4 general stores, 1 clothing store, 1 furniture store, 2 millinery stores, 2 hotels, 2 boarding houses, graded public schools employing 4 teachers, 2 physicians, 1 lawyer, good churches, a new village hall, 2 bakery shops, 2 restaurants, barber shop, 1 blacksmith shop, 2 saw mills, planing mill, grist mill and heading mill. Two weekly newspapers are published. Has an electric light plant. Is in need of a first class hotel, furniture or woodenware factory.

Steam power is used here. Wood is used for fuel, obtained from the adjacent country. The village can be supplied with clay, sand and timber. Help can be secured in the village.

Not over 50% of the land surrounding the village, suitable for crop raising, is improved. Not to exceed 4% of the land is swampy or sandy and 50% is level and free from stone.

LUCK.

Luck, Polk Co. Population 372. An incorporated village located on the M., St. P. & S. Ste. M. Ry., in the northern part of the county, 10 miles northwest of Balsam Lake, the county seat, 77 miles from Minneapolis, 159 from Superior and 170 miles from Ashland. Western Express. Telegraph and telephone. Fairly good shipping facilities and passenger service.

The village is supplied with a bank, drug store, 2 hardware and 4 general stores, furniture store, 3 hotels, graded school en-

ploying 3 teachers, 3 physicians, 1 restaurant, meat market, 3 blacksmith shops, 2 saw, planing and feed mills, excelsior factory, and a creamery. A weekly newspaper is published.

A hotel and a woodworking establishment are needed.

Steam power is used here. Wood is used for fuel, obtained from the adjoining country. Vegetables can be furnished for canning and clay, sand, peat and timber are the natural products. Help can be secured here.

The surrounding country is good for agricultural purposes, and about 50% of the land suitable for crop raising is improved. The soil is a clayey loam.

OSCEOLA.

Osceola, Polk Co. Population 573. An incorporated village located on the M., St. P. & S. Ste M. Ry., and on the St. Croix river in the southeastern part of the county, 20 miles from Balsam Lake, the county seat, 49 miles from Minneapolis, 141 miles from Ashland, 152 miles from Superior, and 115 miles from Chippewa Falls. Western Express. Telegraph and telephone connections. Shipping facilities and passenger service good.

The village was first settled in 1844. Is a favorite summer resort, is supplied with a bank, drug store, 1 grocery, 2 hardware and 2 general merchandise stores, furniture store, excellent schools employing 6 teachers, Baptist, Lutheran and Methodist churches, a physician, a lawyer, 1 hotel, an opera house, 2 restaurants, barber shops, meat markets, 2 harness shops, 1 blacksmith shop, 1 flour mill and 2 feed mills. Two weekly newspapers are published. A first-class hotel is needed.

Steam power will have to be used here. Wood is used for fuel, obtained from the adjacent country. Vegetables can be supplied for canning and clay and sand are plentiful. A limited amount of help can be secured in the vicinity.

This is a good farming country and about 50% of the land suitable for crop raising is improved. A very small per cent of the land is rough, about 10% sandy, a large per cent being level and free from stone.

ST. CROIX FALLS.

St. Croix Falls, Polk Co. Population 612. An incorporated village in the western part of the county on the St. Croix river, opposite Taylor's Falls, Minnesota, and at the terminus of the St. Croix Falls branch of the M., St. P. & S. Ste. M. Ry., 12 miles west of Balsam Lake, the county seat, 58 miles from Minneapolis, 140 miles from Superior, 151 miles from Ashland, and 349 miles from Milwaukee. Western Express. Telegraph and telephone. Good shipping facilities and passenger service. Northern Pacific Ry. at Taylor's Falls.

The village is located on the banks of the St. Croix river at the head of navigation, adjoining Inter-State Park, is lighted by

electricity, has a bank, 1 drug store, 2 groceries, 1 hardware, 1 clothing and 2 general stores, furniture store, jewelry store, 2 hotels, a high school employing 6 teachers, county training school for teachers, Methodist and Presbyterian churches, 1 physician, 2 lawyers, 2 restaurants, 2 meat markets, 2 harness shops, 2 lumber yards, 1 flour mill, (50 bbls.) 1 planing mill and a saw mill. Two weekly newspapers are published. A first-class hotel is needed.

There is a large water power here which is being utilized to generate electricity for manufacturing purposes, and when completed will supply cheap power. Wood and coal are used for fuel. Wood is plentiful in the adjoining country and coal is obtained from St. Paul and Minneapolis. Fruit and vegetables can be supplied for canning. There is plenty of clay, sand, timber and stone in the immediate vicinity. Plenty of help can be secured in the village and adjacent country to work the entire year. This is a good location for a shoe factory, sash and door factory, woolen mill, excelsior, paper and veneer mills and a good flour mill.

This village is located in a fine dairying and grazing country, and only 1-3 of the land suitable for crop raising is improved. About 25% of the country is rough and the remainder level or rolling. Good soil, no stone or sand and no swamps.

PORTAGE COUNTY.

Portage county is situated in the central part of the state. The area of this county is 800 square miles with a population in 1905 of 30,861, a gain of 1,378 over 1900. About one-fifth of the population is of foreign birth, Poles being most numerous with Germans second in number. The farm area of 1905 was 373,974 acres as compared with 307,801 acres in 1890, of which amount 184,350 acres represent improved land. The value of the farms in 1905 including improvements was \$8,809,481 as against \$4,281,350 in 1890. The soil over two tiers of townships in the eastern part of the county is a sandy loam, varying considerably in the relative amounts of sand and clay. It is a generally uneven and rolling county with numerous small lakes and swamps, and containing a variable amount of rounded stone and boulders. This soil is good

strong land capable of being made very productive. It is well adapted to potatoes, corn, oats, rye and hay, but potatoes are the chief crop. This is pre-eminently the potato soil of the state. A dense growth of scrub oak is found on this soil with little hardwood or pine. To the westward of this sandy loam there is a strip of sandy loam with considerable gravel, and with a much more even surface than the land to the east. Potatoes and rye are the principal export crops, but dairy products and live stock are also leading sources of farm income. The Wisconsin river sandy soil which in some counties is quite narrow is very broad in Portage county, and with the associated marsh lands and peaty soils covers a large portion of the southwestern part of the county. The surface is a nearly level plain sloping downward to the south along the river. The forest trees of this formation were pine but they have been almost wholly removed. Owing to the large amount of clay in this soil serving to retain the moisture and the nearness of the ground water, this soil is more productive than sandy soil generally is. The prevailing crops are potatoes, rye, hay, corn and oats, the first two being raised for export, and the others being used for feed for stock. In the northwestern part of the county the soil is a clay loam, the surface of which is rolling, the uplands having broad and level tops and sloping gently into the valleys. The forest growth of this region is hardwood and hemlock, much of which still remains. This soil for fertility compares favorably with any soil in the Mississippi valley and is destined to be a great dairy and stock-raising region. In the southern part of the county there is a large swampy tract, now being improved by drainage. While over one-fourth of this county is still unoccupied for farming, it ranks first among the potato raising counties of the state and is surpassed by but few in the state. The principal crops and their acreage in 1890 and 1905 is as follows:

	Acreage in 1890.	Acreage in 1905.
Corn	14,489	13,468
Oats	24,453	32,708
Rye	15,151	16,254
Hay	29,388	40,358
Potatoes	12,904	25,985

There are 3 cheese factories and 25 creameries in the county. Unimproved land ranges in price from \$12.50 to \$25 per acre, improved land, from \$30 to \$50 per acre, the price in each case depending upon location and the amount of standing timber. Stevens Point is the largest city and county seat. The population of the cities, villages and towns in 1905 was as follows:

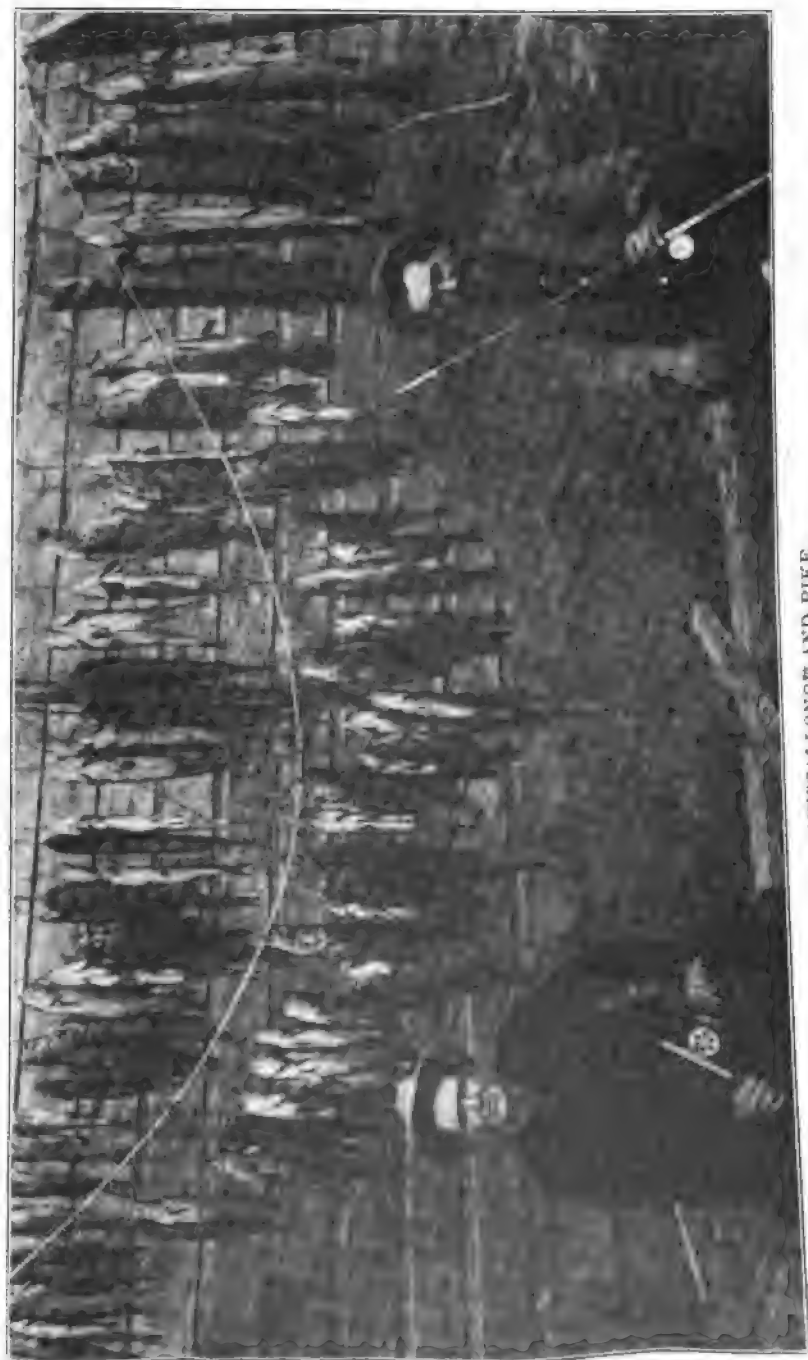
PORTAGE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Sx-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Alban	203	626	556	1,182	1,182	.....	.....	1	228
Almond	203	529	430	959	959	.....	.....	6	220
Almond, village	100	218	197	415	415	.....	.....	6	78
Amherst	308	861	803	1,664	1,664	.....	.....	13	268
Amherst, village	148	284	229	513	513	.....	.....	16	106
Belmont	179	499	406	905	905	.....	.....	5	157
Buena Vista	223	620	515	1,135	1,135	.....	.....	15	223
Carson	308	917	800	1,717	1,717	.....	.....	.....	270
Dewey	120	401	375	776	776	.....	.....	.....	78
Eau Claire	228	675	569	1,244	1,244	.....	.....	5	129
Grant	117	337	325	662	662	.....	.....	8	101
Hull	227	715	684	1,399	1,399	.....	.....	2	187
Lanark	188	425	418	843	843	.....	.....	8	105
Linwood	140	372	366	738	738	.....	.....	5	108
New Hope	192	505	464	969	969	.....	.....	6	126
Pine Grove	165	381	332	713	713	.....	.....	13	111
Plover	332	849	791	1,640	1,640	.....	.....	25	258
Sharon	311	1,166	1,043	2,209	2,209	.....	.....	2	333
Stevens Point, city:									
ward 1.....	280	634	770	1,404	1,404	.....	.....	.....	.....
ward 2.....	354	702	799	1,501	1,501	.....	.....	.....	.....
ward 3.....	357	690	809	1,499	1,499	.....	.....	.....	.....
ward 4.....	489	1,240	1,413	2,653	2,653	.....	.....	.....	.....
ward 5.....	293	609	688	1,297	1,297	.....	.....	.....	.....
ward 6.....	160	331	347	678	678	.....	.....	.....	.....
Total, city, 9,022								76	1,374
Stockton	330	1,081	975	2,056	2,056	.....	.....	5	324
Total	5,950	15,657	15,204	30,861	30,861	.....	.....	217	5,005

ALMOND.

Almond, Portage Co. Population, 415. 24 miles from Stevens Point. C. & N. R. y. Telephone system. Western Union telegraph. American Express.

There are at present no factories, but the surrounding country can be drawn upon for increased labor force for any factory locating here. There is one bank and two physicians but no lawyer. A weekly newspaper is published. The country surrounding Almond is good agricultural soil. A canning factory or starch factory would find this city an excellent location.



MUSCALLONGE AND PIKE.

Photo by S. A. Johnson, Phillips, Wis.

AMHERST.

Amherst, Portage Co. Population, 613. 17 miles from Stevens Point and 143 miles from Milwaukee. The Wis. Central Ry. and the G. B. & W. Ry. Telephone system. Western Union telegraph. United States and National Express.

The city of Amherst is located on the Waupaca River. Such raw materials as clay, sand, stone and timber can be obtained in abundance. There are at present no manufacturing establishments in the city. The surrounding country is not as yet very thickly settled but large quantities of fruit and vegetables are being raised.

Amherst is located in the potato belt and has five potato warehouses. There is also located here one creamery and one grist mill. There is one hotel having accommodations for forty persons. Has a weekly newspaper. The establishment of a canning factory and cheese factory would be welcomed by the city and surrounding country.

ARNOTT.

Arnott, Portage Co. Population, 300. Not incorporated. 10 miles from Stevens Point. Amherst Junction is the nearest banking center. G. B. & W. R. R. Telephone connections. Western Union telegraph. United States Express.

There are no factories here at the present time. The surrounding country is anxious to secure the location of a canning or pickling factory at this point. The country can be drawn upon for about one hundred persons to be engaged in factory labor. There is no bank and no drug store in this village. There is a small grist mill. The one hotel located at this place is hardly sufficient to accommodate the persons visiting here, and a new hotel is greatly desired.

BANCROFT.

Bancroft, Portage Co. Population, 350. 16 miles from Stevens Point. C. & N. W. Ry., and Wisconsin Central R. R. Telephone connections. Western Union telegraph. American and National Express.

There are no manufacturing establishments in the city at the present time, but reasonable inducements would be offered for the location of a canning factory. A general store is also desired. There are no drug stores nor bank in the city, Plainfield being the nearest banking point. There is one physician but no lawyer. There is one small hotel.



TIMOTHY HAY IN PRICE COUNTY.

One saw mill and several potato warehouses are located at this point. There is a church and a public school.

PLOVER.

Plover, Portage Co. Population, 450. 6 miles from Stevens Point. G. B. & W. Ry., and Wis. Central Ry. Telephone system. Western Union telegraph. United States and National Express.

There is an excellent water power in this village not all utilized. There are located here three potato warehouses and two paper mills a short distance from the village. There is no bank. There is one physician but no lawyer. Large quantities of vegetables are raised in the country surrounding Plover and inducements will be offered for the location of a canning and pickling factory. There is a small hotel with accommodations for about fifteen. There are no boarding houses.

ROSHOLT.

Rosholt, Portage Co. Population, 400. 18 miles from Stevens Point. C. & N. W. Ry. Telephone system. Western Union telegraph. American Express.

Rosholt is a new town having been established but a few years ago. There are at present in this city 1 saw mill 1 feed mill, 2 planing mills, 1 creamery and 5 potato warehouses in addition to the usual number of stores and repair shops. There are no manufacturing plants located here and 1 or 2 small factories will be furnished reasonable inducements to locate here. There are 2 hotels and 1 boarding house.

STEVENS POINT.

Stevens Point, Portage Co. Population, 9,022. 87 miles from Green Bay, 108 miles from Madison and 150 miles from Milwaukee. G. B. & W. R. R., and Wis. Central R. R. No electric railways. Waterworks, gas plant, electric lighting plant and telephone system. Western Union telegraph. National and United States Express.

Stevens Point is located on both sides of the Wisconsin River which furnishes the city with a water power, only partially developed and which is surpassed by but a few places in the northwest, making the outlay for power in this city but a comparatively small item in the manufacturing cost.

Lumbering is the principal industry, the city being situated at the base of the Wisconsin forests. Such raw materials as sand, clay, peat, stone and timber are found near the city. The country surrounding this city is not as yet thickly settled, but fruits and vegetables are being raised in large quantities. The city is the center of one of the richest potato growing sections in America.

In 1905 there were 37 manufacturing establishments, with an aggregate capitalization of \$952,539, employing 598 wage-earners and having a product of \$1,516,072. The principal manufacturing products are lumber, paper, wall paper, gas engines, furniture, boxes and sash, doors and blinds. There are no unoccupied factory buildings in the city.

Stevens Point has 3 banks, a daily paper, several weekly papers one of which is Polish, and 8 hotels. A new and modern hotel is desired. There are 10 churches representing the leading denominations, two of which are German and one Norwegian. The city has an excellent system of public schools. There is also a business college and the city is the location of one of the state normal schools.

PRICE COUNTY.

Price County is located in the north central part of the state. The area is 1,241 square miles. The population in 1905 was 12,353, showing a gain of 3,247 over the census of 1900. Nearly one-third of this population is foreign of which number Swedes and Germans represent the majority. Price county is but sparsely settled. Having been the center of a great lumber industry, it presents to-day many thousands of acres of cut-over lands, all available for agricultural purposes but as yet scarcely touched. In 1890 the total improved acreage under cultivation was but 5,160 acres. In 1905 the total farm area was 116,791 acres of which 18,855 acres were improved. This latter figure represents less than 3% of the total area of the county. During the last fifteen years the valuation of the farm land including improvements increased from \$365,780 to \$1,774,791. The surface of the county, except in close proximity to the stream channels, is rolling rather than hilly. Irregular mounds and ridges occur in various parts of the county as a result of glacial deposition.

In the southern part of the county the surface is characterized by belts of ridges and billowy hills associated with some deep depressions and swamps. Many of the ridges have very steep slopes and rise to a height over one hundred feet above the surrounding land. The soils covering the larger part of the county are a light clayey loam. In the northeastern part there is a large tract of sandy loam. There are numerous irregular areas of humus soils, composed mainly of muck and peat, scattered throughout the county. Wherever land has been cleared in this county, excellent crops have been raised. The chief products are oats, barley, rye and hay. Dairying and sheep raising are destined to become important interests. Already four creameries have been established. Unimproved lands in this county, such as can be made tillable, are selling at from \$5.00 to \$10.00 per acre. The price of improved lands ranges from \$35.00 to \$50.00 per acre, according to location and state of cultivation. The county seat is Phillips. The population of the cities, villages and towns of the county in 1905 was as follows:

PRICE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-servitors and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Brannan	129	320	271	591	591	.....	.....	.....	95
Catawba	93	239	181	420	420	.....	.....	1	90
Emery	81	214	172	386	386	.....	.....	1	71
Elsenstein	56	176	155	331	331	.....	.....	.....	56
Fifield	111	296	230	526	526	.....	.....	7	125
Park Falls, village....	311	797	641	1,438	1,438	.....	.....	7	355
Georgetown	63	187	149	336	336	.....	.....	3	71
Hackett	60	142	120	262	262	.....	.....	.....	44
Hill	49	132	102	234	234	.....	.....	.....	44
Kennan	55	162	139	301	301	.....	.....	1	58
Kennan, village	54	134	111	245	245	.....	.....	3	62
Knox	166	472	372	844	844	.....	.....	3	111
Lake	96	259	216	475	475	.....	.....	8	50
Ogema	250	645	484	1,129	1,128	.....	1	.....	227
Prentice	113	314	261	575	575	.....	.....	4	110
Prentice, village	166	434	429	863	861	.....	2	2	162
Phillips, city:									
ward 1.....	151	392	345	737	735	.....	2	.....	.....
ward 2.....	146	335	259	634	634	.....	.....	.....	.....
ward 3.....	146	337	303	640	640	.....	.....	.....	.....
Total, city.....2,011								8	433
Worcester	278	764	622	1,386	1,386	.....	.....	3	243
Total	2,573	6,751	5,602	12,353	12,348	.....	5	51	2,426



PRICE COUNTY APPLES.

CATAWBA.

Catawba, Price Co. Population, 250. An unincorporated village located on M. St. P. & S. Ste. M. Ry., in the southwestern part of the county 16 miles southwest of Phillips the county seat, and 12 miles west of Prentice, both of which places afford banking facilities, and 160 miles from Minneapolis, Western Express. Telegraph and telephone. Good freight facilities and passenger service.

The village is supplied with 2 general stores, 1 grocery store, a state graded school employing 3 teachers, Catholic and Lutheran churches, 2 hotels, an opera hall, blacksmith shop, a saw, planing and shingle mill. Good location for a cheese factory.

The country surrounding the village is gently rolling, nearly level and the soil is a clayey loam, adapted to all kinds of farm produce, and especially to dairying. Lumbering is the principal industry. There is a large amount of hardwood and hemlock timber which makes this a good location for a veneer factory, stave and heading mills, woodenware and furniture factories.

OGEMA.

Ogema, Price Co. An unincorporated village with a population of 250, located on the Wisconsin Central Ry., in the southern part of the county, 19 miles from Phillips, the county seat, 7 from Prentice, the nearest banking point, 97 from Ashland, 109 from Superior, 90 from Chippewa Falls, and 240 from Milwaukee. National Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village has 1 drug store, 3 hardware and 4 general stores, 1 hotel, 1 boarding house, graded public school employing 2 teachers, 2 physicians, harness shop, tailor shop, blacksmith shop, saw and planing mill and a creamery.

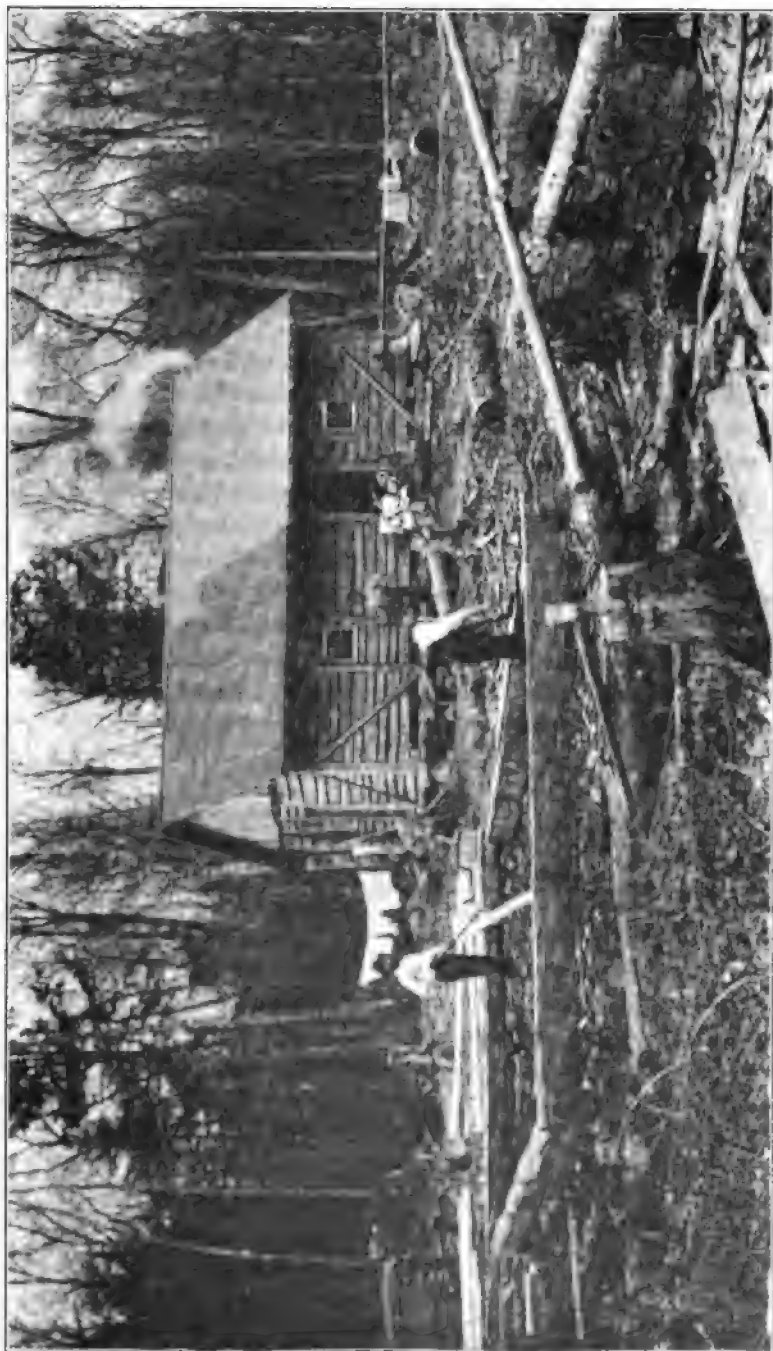
Wood is used for fuel obtained from the surrounding country. The village can be supplied with clay, sand, timber and stone. There is plenty of help to be had here. This is a good location for a manufacturing plant using timber products.

The surrounding country is suitable for farming and is only about $\frac{1}{3}$ improved. East of the village the country is hilly, but the larger part is level and free from stone. The soil is fertile and but very little swampy and sandy.

PARK FALLS.

Park Falls, Price Co. Population, 1,439. An incorporated village located on the Wisconsin Central Ry., and on the Flambeau river, in the northern part of the county, 14 miles north of Phillips, the county seat, 59 miles from Ashland, 122 miles from Superior, and 127 miles from Chippewa Falls. National Express. Good shipping facilities and passenger service.

This village has been building up quite rapidly in the last few years. Has graded streets well kept up, plank walks, numerous small shade trees, is lighted by electricity, has 2 banks,



THE BEGINNING.

Photo by S. A. Johnson, Phillips, Wis.

1 drug store, 3 groceries, 2 hardware and 4 general stores, furniture store, excellent high and public schools employing 9 teachers, Catholic, Congregational and German Lutheran churches, 3 physicians and 1 dentist, 1 lawyer, 3 hotels, 2 boarding houses, 2 restaurants, 1 jeweler, barber shop, meat market, blacksmith shop, a photographer and a tailor shop. The manufacturing industries include 2 large saw mills, excelsior mill, heading mill, stave, shingle, lath and paper mills, planing mills, pulp mills and a creamery. A weekly newspaper is published.

Timber is the principal natural product and there is plenty of sand and stone for building purposes. Help can be secured here.

The surrounding country is good for farming and only about 10 per cent of the land suitable for crop raising is improved. The soil is a rich clayey loam and is very productive. The country is rolling, some surface rocks, very little swampy and no sand. This section was originally one of the best timbered portions of northern Wisconsin and is yet comparatively new making this village a natural location for any kind of woodworking establishments. There is a good opening here and good inducements will be offered for a basket factory, box factory, furniture factory and a foundry and machine shop.

PRENTICE.

Prentice, Price Co. Population, 800. Is an incorporated village located at the junction of the Wisconsin Central and the M. St. P. & S. Ste. M. Ry's., in the southeastern part of the county, 12 miles southeast of Phillips, the county seat, 90 miles from Ashland, 162 miles from Superior, 177 miles from Minneapolis and 247 miles from Milwaukee. Express, National and Western. Telegraph and telephone. Excellent shipping facilities and passenger service.

The village has a public park, good streets, a bank, 1 drug store, 2 groceries, 1 hardware and 2 general stores, 3 hotels, high and graded public school employing 9 teachers, Adventists, Baptist, Catholic, Congregational and Lutheran churches, 2 physicians, 2 lawyers, saw and planing mill, a tannery, a stave mill, a machine shop and foundry and a creamery. Two weekly newspapers are published. The village is a good location for a brick yard and woodworking factories.

There is a good water power here, with 1000 H. P. not utilized. Wood is used for fuel obtained from the adjacent forests. Vegetables are the only raw materials which can be furnished for canning. The village can be supplied with clay, sand and timber in large quantities, especially timber. Plenty of help can be secured here to work the entire year.



PRICE COUNTY CORN.

The village is surrounded by a good farming country and about $\frac{1}{3}$ of the land suitable for crop raising is improved. The soil is a clayey loam, no sand and but very little swampy.

PHILLIPS.

Phillips, Price Co. Population, 2,011. Located 78 miles from Ashland, 100 miles from Stevens Point, 217 miles from Madison and 268 miles from Milwaukee. Wisconsin Central R. R. There are no electric lines. Has waterworks and electric lighting plant. There is no gas plant. Has telephone system. Western Union telegraph. National Express. County seat.

Phillips is an important center of the lumber industry and the site of two large saw mills and a box factory. It is located on a water power stream which is only partially developed. Factories largely dependent upon the timber supply, such as vehicle works, box factories, spoke factories, etc., would find Phillips an excellent location. Two banks furnish ample banking facilities. There are four churches and two weekly newspapers. The city has an excellent school system.

RACINE COUNTY.

Racine County is located in the southeastern part of the state on Lake Michigan. It is small in area, having but 323 square miles. The great majority of the population is urban. In 1905 the population was 50,228, a gain of 4,584 over the census of 1900. Over one-fourth of the population is foreign born, Germans and Danes being by far the most numerous. All the available land has been occupied for agricultural purposes. The value of the farms in 1905, including improvements was \$13,345,130. The surface of the county is generally level or slightly rolling. In the western part occur hills and ridges comprising a part of one of the terminal moraines. The soil covering the larger part of the county is mainly light and medium varieties of clayey loams, the heavier loams being in the north central part extending down from Waukesha county. The soil extending over the central part is a rich prairie loam. The only considerable area of sandy soil occurs in the eastern part of the county bordering on Lake Michigan. Irregular areas of humus solids are found in the different parts. Throughout the county the soil is excellent for general agricultural purposes. Owing to the excellent markets afforded by the nearby large cities, truck farm-

ing is growing rapidly. The leading crops and the acreage devoted to each in 1890 and 1905 were approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	22,715	26,015
Barley	5,741	3,310
Corn	15,251	25,417
Rye	1,140	1,686
Hay	43,966	40,543

A considerable acreage is devoted to the growing of sugar beets and vegetables. The dairy industry is well developed, there being in 1905, 18 creameries and 3 skimming stations. There is practically no unimproved land in the county except such small tracts as are owned in connection with improved lands. These unimproved lands average in price about \$45 per acre. Improved farm land ranges in price from \$60 to \$90 per acre, with a few tracts at even higher prices. Racine is the county seat. The table on page 736 shows the population statistics of the cities, villages and towns of the county in 1905.

BURLINGTON.

Burlington, Racine Co. Population 2,625. Located in southwestern part of the county on the C., M. & St. P. Ry. and Wisconsin Central Ry., 76 miles from Chicago and 43 miles from Milwaukee. No electric railways or gas company. Public water system. Electric lighting. Telephone connections. Stages daily to neighboring towns. National and United States Express.

Burlington is located in a rich farming country at the confluence of the Fox and White rivers. Coal is the chief fuel which is obtained from Illinois. Clay, sand, peat and stone can be obtained near the city. Fruit and vegetables can be supplied in large quantities for canning factories. Additional labor can be obtained from the surrounding country. There is an unoccupied canning factory in the city at present. The leading industries are the manufacture of flour, malt, brick and tile, blankets, machinery, agricultural implements, cheese and condensed milk. Three weekly newspapers are published. The city annually attracts a large number of summer visitors.

RACINE COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Mals.	Female.	Total.	White.	Colored.	Indians.		
Burlington	214	581	548	1,129	1,129	.....	.....	4	223
Burlington, city:									
ward 1	143	267	275	542	542	.....	.....	.....	.....
ward 2	199	354	412	766	766	.....	.....	.....	.....
ward 3	143	319	394	713	713	.....	.....	.....	.....
ward 4	150	290	314	604	601	.....	.....	.....	.....
Total, city, 2,625								24	461
Caledonia	613	1,738	1,435	3,173	3,172	1	.....	6	708
Dover	188	472	399	871	862	.....	.....	3	182
Mt. Pleasant	696	2,010	1,647	3,657	3,654	3	.....	8	778
Norway	159	644	437	981	950	.....	1	5	207
Racine, city:									
ward 1	233	593	427	1,020	1,014	6	.....	.....	351
ward 2	634	1,418	1,563	2,981	2,985	1	.....	.....	523
ward 3	926	1,993	2,119	4,112	4,084	28	.....	.....	893
ward 4	786	1,823	1,798	3,621	3,612	9	.....	.....	765
ward 5	577	1,392	1,260	2,652	2,643	9	.....	.....	663
ward 6	560	1,104	998	2,102	2,115	.....	.....	.....	500
ward 7	1,001	2,477	2,424	4,901	4,900	1	.....	.....	1,035
ward 8	488	1,076	1,102	2,178	2,178	.....	.....	.....	534
ward 9	577	1,427	1,301	2,728	2,728	.....	.....	.....	609
ward 10	654	1,759	1,495	3,254	3,249	5	.....	.....	819
ward 11	581	1,417	1,319	2,736	2,736	.....	.....	.....	666
Total, city, 32,290								102	.....
Raymond	314	848	723	1,571	1,571	.....	.....	11	235
Rochester	183	372	367	739	739	.....	.....	7	134
Waterford	357	86	766	1,572	1,572	.....	.....	14	327
Yorkville	241	599	486	1,085	1,085	.....	.....	6	248
Union Grove, village..	167	265	279	544	544	.....	.....	9	84
Total	10,794	25,944	24,284	50,228	53,161	63	1	199	11,041

*2 Chinamen.

RACINE.

Racine, Racine Co. Population 32,290. Situated on Lake Michigan at mouth of Root river, 25 miles from Milwaukee and 60 miles from Chicago. C. & N. W. Ry. and C. M. & St. P. Ry. Electric lines to Milwaukee and to the south. The harbor accommodates the largest lake vessels and with the docks along the river furnishes excellent facilities for forwarding and receiving large quantities of freight. Two steamship lines, the Goodrich and Barry Bros. companies carry both freight and passengers and connect all points on the great lakes. Postal and western Union telegraph companies. Adams, American and United States express companies. Two good telephone systems.

Racine offers excellent opportunities to the home-seeker and the manufacturer seeking a location. There is plenty of land in and near the city suitable for manufacturing purposes, especially desirable tracts being available along the Root River. Racine has the largest manufacturing industry in comparison with its population of any city in the country. In 1905 it had 148 manufacturing establishments with a capitalization of \$26,433,684. These plants employed 1,239 salaried officials and clerks and 6,504 wage-earners. The

total value of the products was nearly \$17,000,000. An unusually large proportion of the population own their homes. The city has 3 banks, 3 daily and 6 weekly newspapers. It has an excellent street car system reaching all parts of the city and suburbs. There is a good water-works system and an up-to-date gas plant. There are no unoccupied or idle factories in the city. For a number of years there has been a strong demand for labor, which has continued unbroken, due to the great diversity of the manufactured products of the city. The leading products are agricultural implements, wagons and carriages, furniture, machinery and boilers, boots and shoes, factory made garments, malleable iron, medicines, steel axles, boats, etc. Owing to the large local consumption of iron and steel there is need for a rolling mill. There are enough plants in Racine using rolling mill products to take the entire output of a large factory.

The surrounding territory is thickly settled and is drawn upon for increased labor. The city has adopted a very progressive policy towards manufacturing establishments and while it gives no free sites or bonuses, such assistance is given to substantial concerns through the Racine Business Men's Association consisting of over two hundred of the leading business and professional men of the city.

UNION GROVE.

Union Grove, Racine Co. An incorporated village with a population of 544. 12 miles from Burlington and 15 miles from Racine, the county seat. C., M. & St. P. Ry. Telephone system. Western Union telegraph. United States Express.

There is no water power. Coal is used for fuel which is obtained from Illinois. Fruit and vegetables are raised in large quantities. Sand, peat and an excellent quality of clay is found near the village. There are in this village 1 bank, 3 physicians, 2 dentists, 1 lawyer, 1 weekly paper, 1 hotel of twenty rooms, the usual number of stores and 3 churches. There is 1 public school employing 6 teachers. A weekly paper is published. The village each year cares for a large number of summer visitors.

WATERFORD.

Waterford, Racine Co. Population 800. Located on the Fox river 22 miles from Racine and 7 miles from Burlington, its shipping point. Telephone system. Daily stage connection with Burlington.

Vegetables and fruit can be raised in large quantities to supply canning factories. Clay, sand and stone are found near the city. Labor can be secured from the surrounding country which is a well settled agricultural district. There are in this town 1 bank, 1 drug store, 6 groceries, 2 hardware stores and 4 dry goods stores. There are 3 physicians, 2 lawyers, and a weekly newspaper. Waterford is somewhat of a summer resort and with the construction of an electric line which is promised, the number of summer visitors will be largely increased.

RICHLAND COUNTY.

Richland county is located in the southwestern part of the state on the Wisconsin river. It has an area of 576 square miles. The population in 1905 was 19,334, of which number one-sixth were foreign born. Germans represent the largest foreign element, with Norwegians, Irish and English following in the order here given. Being one of the earlier settled counties, practically all of the land suitable for agricultural purposes has been put under cultivation. In 1905 the farm area was 348,306 acres, of which amount 189,217 acres or 54% were improved. In 1890 the total farm area was 326,409 acres, of which 159,276 acres had been improved. The topography of the county is very rough and hilly. Numerous hills and high rolling ridge lands cover the surface, and are intersected by streams and valleys causing precipitous cliffs and very abrupt slopes. The county is well watered and drained by numerous small streams, tributary to the Baraboo, Kickapoo and Wisconsin rivers. The soil of the county is a loamy clay of the medium and heavier varieties. This is a very fertile soil and unsurpassed in quality. It is well adapted to general farming and to dairying and stock raising in particular. All crops do well on this soil. Along the Wisconsin river and its leading tributaries the soil is sandy or a sandy loam. The valley of the Pine river is rather swampy, but with increased cultivation and improved drainage nearly all of it is now devoted to hay and pasture lands. The principal farm

products of the county and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	16,307	2,986
Oats	21,743	22,889
Barley	5,569	4,303
Rye	2,073	2,718
Corn	24,812	28,321
Hay	35,026	46,533

The dairy industry has recently grown to a position of importance, there being 43 cheese factories, 13 creameries and 13 skimming stations in the county in 1905, is destined to occupy a still more favorable position in the income of the community. Sheep raising and wool growing is also a leading industry, the county ranking second in the state in the number of sheep. The price of unimproved land which can be brought under cultivation averages about \$25 per acre. Improved lands range in price from \$50 to \$80 per acre. The largest city is Richland Center, which is also the county seat. The following table shows the population of the cities, towns and villages of the county in 1905:

RICHLAND COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPU- LATION.			COLOR.			Ex soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Akan	179	475	405	880	880	.....	.....	8	130
Bloom	273	642	597	1,239	1,239	.....	.....	23	217
Buena Vista	234	534	473	1,007	1,007	.....	.....	14	179
Lone Rock, village.....	130	296	3 8	604	604	.....	.....	13	115
Dayton	233	535	479	1,014	1,014	.....	.....	10	197
Eagle	205	499	456	955	955	.....	.....	13	150
Forest	165	417	362	779	779	.....	.....	18	163
Viola, village	89	192	180	372	372	.....	.....	14	83
Henrietta	235	585	523	1,108	1,108	.....	.....	21	228
Ithaca	185	458	411	869	869	.....	.....	4	170
Marshall	184	444	4 5	849	849	.....	.....	18	160
Orion	200	486	442	928	928	.....	.....	24	160
Richland	170	504	414	918	918	.....	.....	9	163
Richland Center, city:									
ward 1.....	234	452	454	906	904	2	.....	.....	.....
ward 2.....	261	474	469	943	962	1	.....	.....	.....
ward 3.....	2 3	340	426	766	766	.....	.....	.....	.....
Total, city.....	2,635	.....	.....	.....	.....	.....	.....	65	467
Richwood	284	663	605	1,268	1,268	.....	.....	31	233
Rockbridge	194	486	430	916	916	.....	.....	19	157
Sylvan	183	447	379	826	826	.....	.....	15	153
Westford	143	425	363	788	788	.....	.....	3	163
Cazenovia, village ...	78	200	198	398	393	.....	.....	1	50
Willow	220	506	486	992	984	8	.....	21	169
Total	4,282	10,060	9,285	19,345	19,334	11	.....	344	3,499

BOAZ.

Boaz, Richland Co., is an unincorporated village of about 300 population located $8\frac{1}{2}$ miles from Richland Center the nearest railroad station. Has telephone.

This village is supplied with a bank, drug store, a grocery, a general store, a hardware, 1 grist mill, 2 feed stores, 2 saw mills, and cheese factory. One physician is located here. Any wood working establishment is best suited for the place. A small water power could be developed. Such raw materials as clay, sand, stone, timber, small fruit and vegetables can be supplied. A first-class hotel is desired.

This village is located in a very fertile valley where the farmers are all well-to-do. Dairying and stock raising are the chief occupations.

CAZENOVIA.

Cazenovia, Richland Co., is an incorporated village of 398 people, is seven miles from La Valle, the nearest railroad station. Has telephone.

A railroad is in course of construction to this town from La Valle. When this is completed, Cazenovia will afford a splendid opportunity for a hotel, tobacco warehouse or a starch factory. Plenty of help can be procured. At present the village has neither bank, drug store, electric light plant or hardware store, but is supplied with 3 general stores, a meat market, furniture store, a hotel, 1 physician and a public school employing 4 teachers.

Some of the best farms in the state are located in this neighborhood.

EXCELSIOR.

Excelsior, Richland Co., is an unincorporated village having a population of about 200; is located 8 miles from Blue River, the nearest railroad station. Telephone.

Excelsior has a splendid undeveloped water power. Such raw materials as clay, sand, stone, timber, small fruit and vegetables can be supplied, and plenty of help secured. A canning factory or wood working establishment is best suited for the place. The village is supplied with a drug store, grocery, hardware store, 2 general stores, a hotel, 2 physicians and a graded school.

This village is in the heart of a prosperous farming region where tobacco culture is becoming a leading industry.

LONE ROCK.

Lone Rock, Richland Co., is an incorporated village with a population of 604; is located on the C., M. & St. P. Ry. 43 miles from Madison, 125 miles from Milwaukee and 174 miles from Chicago. Telegraph and telephone. Good facilities for receipt and shipment of freight. Five passenger trains daily. United States Express.

Such raw materials as timber, sand, stone, small fruit and vegetables can be supplied and any industry utilizing these is best suited for the place. Help is plentiful. The village is supplied with a bank, drug store, 5 groceries, 2 hardwares, 4 general stores, harness shops, millineries, jewelry store, 2 hotels, 2 boarding houses, 3 physicians, an attorney-at-law, a high school, and 3 boarding houses. A weekly newspaper is published.

The land in this vicinity is level and the soil is sandy.

RICHLAND CENTER.

Richland Center, Richland Co., is a city having a population of 2,635; is located on the C., M. & St. P. Ry. 16 miles from Lone Rock, 59 miles from Madison, 190 miles from Chicago and 141 miles from Milwaukee. Good facilities for receipt and shipment of freight. Good passenger service. Telegraph and telephone. United States Express.

A furniture or canning factory is best suited for this place. Such raw materials as small fruit, vegetables, sand, clay, stone and plenty of hardwood lumber can be supplied, and help secured. The city is supplied with an electric light plant, 2 banks, 4 drug stores, 12 general stores, 2 restaurants, 2 jewelry stores, 3 meat markets, 2 feed stores, 1 second-hand store, 3 newspapers, 2 lumber yards, 1 excelsior mill, saw and planing mill, 1 flour mill, 2 cooper shops, 1 machine and repair shop, 2 tailor shops, 2 plumber shops, 1 shoe store, 3 furniture stores, 1 marble shop, 2 hotels, several boarding houses, a high school, 9 physicians, 5 attorneys-at-law, good macadamized streets and cement walks, and plenty of shade trees.

This city is in the Pine river valley, where some of the richest lands in the state are to be found. Dairying and stock raising are the leading occupations of the farmers.

VIOLA.

Viola, Richland Co., is an incorporated village having a population of 372 inhabitants, located on the C., M. & St. P. Ry., 45 miles from Wauzeka, 125 miles from Madison and 207 miles from Milwaukee. Telephone. Fairly good freight and passenger facilities. United States Express.

This village is a good location for an electric light plant, a lumber yard or canning factory. A good water power can easily be developed here. Plenty of help can be secured in the vil-

lage and the adjacent country. Viola has a bank, 2 drug stores, 2 groceries, 2 hardwares, 4 dry good stores, an excelsior mill, 2 flouring mills, a tobacco warehouse, a saw and planing mill, 2 barber shops, 2 hotels, 2 boarding houses, 3 physicians, a high school employing 4 teachers, and a newspaper.

Viola is situated in the Kickapoo valley. The land of this valley is very fertile and dairying and tobacco raising is the leading occupation of the farmers.

ROCK COUNTY.

Rock county is located in the southern part of the state on the Illinois boundary line. The area is 706 square miles. In 1905 the population was 53,641, a gain of 2,438 over 1900. Only one-sixth of the population is of foreign birth, and of this number, Germans and Norwegians represent a majority. Practically all the land which is available for agricultural purposes has been placed under cultivation. The total farm area in 1905 was 420,174 acres, of which amount 355,729 acres are improved. The total value of the farm lands including improvements in 1905 was \$27,230,180, as against \$21,344,840 in 1890. The surface of the county, with the exception of Rock river valley, is rolling or hilly. The soils throughout the county are mainly light clayey and prairie loams, the latter being of very fertile quality and more general in the central part of the county. Glacial drift covers all parts of the county, being heaviest in the northern part. This drift consists of gravel, sand and boulder clay and occurs in ridges, hills and sheets covering the originally irregular land surface. In the northern and western parts, the soils are principally sandy loams. Irregular areas of humus soils occur along the stream channels in the western half of the county. Rock county is one of the wealthiest agricultural districts in the state. The leading crops and acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	53,679	48,102
Barley	31,324	25,916
Rye	5,099	8,863
Corn	72,693	89,047
Hay	67,614	58,742
Tobacco	9,984	6,000

The tobacco acreage has shown a decline during the last few years owing to the rapid growth of the sugar beet industry. In 1900 the tobacco acreage was 9,988 acres while practically no sugar beets were grown. In 1905 over 3,000 acres were devoted to the raising of sugar beets. Rock county is situated in Wisconsin's richest dairy district and this industry has grown very rapidly. In 1905 there were 15 cheese factories, 37 creameries and 9 skimming stations. Small tracts of unimproved lands, such as are owned in connection with improved farms average in price about \$50.00 per acre. Improved lands range from \$60.00 to \$100.00 per acre. Janesville is the county seat. The table on page 744 shows the population statistics of the cities, villages and towns of the county in 1905.

BELOIT.

Beloit, Rock Co. Population, 12,855. 14 miles from Janesville, 54 miles from Madison and 75 miles from Milwaukee. C. & N. W. Ry., and C. M. & St. P. Ry. Electric railway to Rockford and Janesville. Water-works, gas plant, electric plant and telephone system. Western Union and Postal telegraph. American and United States Express.

Beloit, situated on the Rock river which has furnished an excellent waterpower, has developed into one of the principal manufacturing cities of Wisconsin. In 1905 there were 44 manufacturing establishment with an aggregate capital of \$3,739,442, employing an average of 2,471 wage-earners and having a total product of \$4,485,224. The growth of manufacturing in this city has been exceedingly rapid, and the establishments now located are nearly all old and large companies. During the last five years the capital invested in manufacturing increased 49%; number of wage-earners increased 34% and total product increased 60%. The principal products manufactured are gas engines, tanks, steam pumps, wood-working machinery, agricultural implements, scales, machine knives, garments, shoes and cigars.

ROCK COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Avon	158	424	316	740	740	.....	.....	4	93
Beloit	154	415	350	765	765	.....	.....	4	147
Beloit, city:									
ward 1	420	858	848	1,706	1,635	71	.....	6	383
ward 2	853	1,795	1,757	3,552	3,544	8	.....	13	849
ward 3	484	1,038	1,119	2,057	2,057	.....	.....	14	493
ward 4	673	1,282	1,267	2,549	2,546	3	.....	23	584
ward 5	691	1,503	1,488	2,991	2,991	.....	.....	16	652
Total, city	12,855								
Bradford	196	501	430	931	931	.....	.....	4	205
Center	221	552	479	1,031	1,031	.....	.....	2	189
Clinton	207	542	468	1,010	1,010	.....	.....	5	224
Clinton, village	269	414	478	892	892	.....	.....	29	158
Edgerton, city:									
ward 1	203	426	439	865	865	.....	.....	.....	114
ward 2	208	429	461	890	890	.....	.....	.....	140
ward 3	149	334	327	661	661	.....	.....	.....	122
Total, city	2,416							48	.....
Evansville, city:									
ward 1	145	255	294	549	546	3	.....	.....	.....
ward 2	206	310	389	699	699	.....	.....	.....	.....
ward 3	192	348	367	715	715	.....	.....	.....	.....
Total, city	1,963							48	379
Fulton	173	655	569	1,224	1,224	.....	.....	8	241
Harmony	257	588	550	1,138	1,132	6	.....	6	204
Janesville	180	598	524	1,122	1,116	6	.....	9	161
Janesville, city:									
ward 1	659	1,414	1,344	2,758	2,749	*9	.....	24	630
ward 2	519	1,050	1,137	2,187	2,181	6	.....	29	471
ward 3	840	1,570	1,721	3,291	3,291	.....	.....	51	670
ward 4	802	1,732	1,925	3,657	3,654	*13	.....	23	627
ward 5	438	956	921	1,877	1,876	.....	.....	3	451
Total, city	13,770								
Johnstown	215	473	445	918	918	.....	.....	2	192
La Prairie	178	477	397	874	874	.....	.....	4	185
Lima	221	543	464	1,007	1,007	.....	.....	14	230
Magnolia	202	455	444	899	899	.....	.....	8	179
Milton	422	796	853	1,649	1,643	6	.....	31	264
Milton, village	231	385	425	810	808	2	.....	30	129
Newark	197	495	429	924	924	.....	.....	3	209
Plymouth	3 3	702	650	1,352	1,350	2	.....	15	272
Porter	211	591	485	1,076	1,076	.....	.....	5	227
Rock	200	505	425	930	930	.....	.....	5	193
Spring Valley	218	525	465	1,000	1,000	.....	.....	1	232
Orfordville, village	123	225	214	439	439	.....	.....	7	81
Turtle	231	552	475	1,027	1,027	.....	.....	12	174
Union	2 8	486	393	879	877	2	.....	9	186
Total	12,437	27,209	26,432	53,641	53,503	138	.....	484	10,985

*3 Chinamen.

There is a large amount of land adjoining the railroad tracks which is especially adapted for manufacturing purposes, having shipping facilities over both railways. Free sites can be obtained by any substantial institutions. The surrounding country can be drawn upon for a large increase in the labor force. Any kind of manufacturing establishment will be wel-

comed. There are no unoccupied manufacturing plants in the city at present, with the exception of an old structure formerly utilized as a flour mill.

The country surrounding Beloit, which is a rich agricultural district, can furnish fruit and vegetables in large quantities, making the city a good location for a canning factory. Sand, peat and gravel are also found in large quantities near the city.

Beloit has an excellent public school system and is the location of Beloit College. It has two excellent parks on the Rock river which are reached by an interurban railway. The progressive business spirit of the city is represented by the Beloit Advancement Association.

CLINTON.

Clinton, Rock Co. Population, 892. 74 miles from Milwaukee, 13 miles from Janesville. C. M. & St. P. Ry., and C. & N. W. Ry. No electric railways. There is a waterworks system, gas plant, two telephone systems, but no electric light plant. Western Union telegraph; American and United States Express.

Being located at the junction of Wisconsin's two largest railways, Clinton offers excellent shipping facilities for any manufacturing establishment. The city has practically no manufacturing at the present time but it is desirous of securing one or two small factories. There is an excellent quality of limestone and a large deposit of clay within a short distance from the city and near the railroad. There are in Clinton 2 hotels, 1 bank, 2 grain elevators, a feed mill, a creamery and the usual number of stores.

The country surrounding Clinton is a fertile agricultural district with practically no waste land. A large business is carried on in the raising of seed grains and seed potatoes.

EDGERTON.

Edgerton, Rock Co. Population, 2,416. 12 miles from Janesville, 25 miles from Madison and 71 miles from Milwaukee. C. M. & St. P. Ry. There is no electric line at present but an interurban railway is promised for the near future. The city has waterworks, electric light and telephone system, but no gas plant. United States Express. Western Union telegraph.

Labor to the amount of 3,000 employes can be obtained from the surrounding country. Clay, sand, timber and stone can be supplied in large quantities near the city.

Edgerton lies in the center of a rich tobacco growing district which has made this city the center for the packing and

handling of Wisconsin's tobacco product. In this industry it is not exceeded by any city in the North-west. There are at present in this city forty-nine tobacco warehouses, employing over 2,000 people during the winter months. New industries are desired to furnish employment to this large number of people during such times of the year when the tobacco warehouses are not in operation. Canning factories, shoe factories, cigar and tobacco companies, are especially desired. Edgerton also has a chemical laboratory, box factory and an extensive brick and tile factory and art clay works. The Edgerton Advancement Association is actively engaged in advertising the city.

EVANSVILLE.

Evansville, Rock Co. Population, 1,963. 16 miles from Janesville, the county seat, 24 miles from Madison and 105 miles from Milwaukee. C. & N. W. R. R. Electric lighting plant. Telephone system. Western Union telegraph. American express.

Evansville is situated at the junction of two branches of the Chicago & Northwestern railway, making it the commercial center of a large part of the county. The city is located in the center of one of the richest dairying and farming communities in the state. The sorting and casing of tobacco is a leading industry, there being four large tobacco warehouses. There is also an extensive plant for the manufacture of windmills. A canning factory, cigar factories, and agricultural implement works are best suited to this city. Land in abundance can be obtained for factory sites, and other reasonable inducements are offered to secure the industrial development of the city. Such raw materials as sand, stone and lumber can be obtained in large quantities. Coal is the principal fuel which is obtained at reasonable rates from Illinois.

Evansville is a modern city. It has 2 banks, 5 churches, a seminary and 4 weekly papers. It is an important freight center, the shipments consisting of tobacco, dairy products, hides and grain.

FOOTVILLE.

Footville, Rock Co. Population, 450. Located 10 miles from Janesville and 9 miles from Evansville on the C. & N. W. Ry. There are no electric light nor gas plants. Has telephone connections. Western Union telegraph. American Express.

There are at present no factories in the city but industries will furnish reasonable inducement to secure their locations;



VIEW NEAR JANESVILLE.

about one hundred laborers could be secured from the surrounding country. Fruit and vegetables can be furnished for canning factory. The only raw materials within the near distance or near to the city are sand, clay and stone. The city has no banks nor drug stores; there are several general stores; there is 1 physician but no lawyer. There are 2 hotels and 1 boarding house.

The surrounding country is level and fertile.

JANESVILLE.

Janesville, Rock Co. Population, 13,770. 91 miles from Chicago and 40 miles from Madison. Located on the C. M. & St. P. and C. & N. W. Ry's., each of which companies have several branches radiating from the city. There is an interurban electric line connecting it with other cities. Has electric railway, waterworks, gas and electric light. Telephone connections. American and United States Express. Western Union and Postal telegraphs.

A large amount of land exceeding one hundred acres can be obtained along the railroads for manufacturing purposes. This city possesses exceptional shipping facilities over one or both lines and free sites can be obtained by substantial establishments. The Rock river at this point furnishes an excellent water power. Coal is obtained from Illinois and the East. Raw materials such as clay, peat and stone can be obtained in abundance. A large additional labor force can be obtained from the surrounding country.

Janesville is an important manufacturing city. In 1905 there were 73 manufacturing establishments with an aggregate capitalization of \$3,444,789, employing 1,348 persons and having an annual output of \$3,846,038. The manufacturing establishments comprise the following: talcstone mills, flour and feed mills, agricultural implement works, furniture factories, vehicle factories, boot and shoe companies, machine shops and factories for the manufacture of fountain pens.

Janesville is located in a very rich agricultural section of the state which has become the tobacco center of the North-west; for this reason, the city offers special advantages for the manufacture of cigars and tobacco. Other factories desired by this city are shoe factories, foundries and plants for the manufacture of agricultural implements.

The city is provided with an excellent educational system churches representing all religious denominations. Nearly all the secret and benevolent societies are fully represented. It is the location of the state institution for the blind. There are

in this city 15 physicians, 25 lawyers and over 40 teachers in the public schools. The industrial advantages of the city are advertised by the Janesville Advancement Association, which has enrolled in its membership leading business and professional men of the city.

MILTON.

Milton, Rock Co. Population, 810. 8 miles from Janesville and 63 miles from Milwaukee. C. M. & St. P. Ry., and C. & N. W. Ry., one mile west of the city at Milton Junction. There is no electric railway connection with any other city but a route for such a line is being surveyed. There is a water-works system, gas plant, telephone system, but no electric light plant. Western Union telegraph. United States Express.

There are no factories in the village at present.

The surrounding country is an excellent agricultural district. Fruit and vegetables are furnished in large quantities. There is an excellent bed of clay suitable for the manufacture of hard brick, located within one-half a mile from the city and a few hundred feet from the railroad. There are 3 physicians and 1 lawyer. The city has 2 hotels furnishing accommodations for 125 persons. No efforts have been made to make the city a summer resort but it has some advantages along this line, having excellent streets, many large shade trees and a fine park. Milton college is located in this city. Milton is located four miles from Lake Koshkonong, a large body of water in the southwestern part of Jefferson county.

MILTON JUNCTION.

Milton Junction, Rock Co. Population, 800. 8 miles from Janesville and 64 miles from Milwaukee. C. M. & St. P. Ry., and C. & N. W. Ry. No electric line at present but an interurban railway line is at present under consideration. There is a gas plant, water-works and telephone system, but no electric light plant. Western Union telegraph. American and United States Express.

Milton Junction as the name implies is located at the junction of Wisconsin's two leading railroads and offers excellent shipping facilities. There are no manufacturing establishments in the city at the present time. Owing to the large amount of fruit, vegetables and tobacco raised in the surrounding country, a canning factory and cigar factory would find this city a most convenient location. There are already 5 tobacco warehouses in this city. There are 3 physicians in this city but no lawyer. There are 3 hotels and several boarding houses.

SHOPIERE.

Shopiere, Rock Co. Population, 350. Situated 11 miles from Janesville, 5 miles from Clinton. Shipping facilities over the C. & N. W. Ry., which is located nearly one mile from the village. There is no electric light nor gas plant. Has telephone system. Western Union telegraph. American Express.

In this village there is a small water power. The surrounding country is a rich agricultural district and fruit and vegetables can be furnished for canning factories. Such raw materials as clay, sand and stone can be obtained in large quantities. There are no manufacturing establishments in the city at the present time. Additional labor can be secured from the surrounding country. There are 2 general stores, 2 hardwares, 2 blacksmith shops and 2 paint shops; there are no banks, drug stores nor laundries; there is 1 physician, but no lawyer; there are 2 boarding houses but no regular hotels. A considerable number of summer visitors are attracted to the village annually.

RUSK COUNTY.

Rusk County is located in the northwestern part of the state. It is intersected by the Chippewa river and its numerous branches heading to the northeast. The area is 916 square miles. The population in 1905 was 9,748. About one-fifth of the population is foreign born, Canadians and Germans being the most numerous. The total farm area in 1905 was 80,098, of which amount only 16,237 acres were improved land. The value of these farms including improvements was \$1,559,825. There was but very little farming in what is now this county prior to 1890. A vast amount of timber has been cut leaving large areas open to settlement. The total amount which has been occupied for agricultural purposes is less than 15% of the available land of the county. The western part of the county is rough and hilly as a result of ridges and glacial moraines, while the eastern part is modified mainly by stream erosion through which hills and valleys have been formed. It contains a few swamps, though entirely free from lakes. The soil is mainly a clayey loam varying to lighter loam. A variable amount of boulders is scattered throughout parts of the surface, though generally not to such an extent as to interfere permanently with cultivation. There are some large stretches where boulders are

entirely absent. The forest growth of this county is mainly birch, maple and hemlock with some white pine but most of the latter has been cut. In sections where farms have been cleared the soil shows itself capable of producing good crops of grain, grasses, corn, and potatoes. This soil is well adapted to the maintenance of an excellent dairy and live-stock industry. The principle products of the county are oats, corn and hay. The range of prices for cut-over lands which can be brought under cultivation is from \$8 to \$12 per acre. Improved farm land sells at from \$15 to \$25 per acre, according to location and state of improvement. The county seat is at Ladysmith. The following table shows the population of the cities, villages and towns in the county in 1905.

RUSK COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Atlanta	166	568	427	995	995	.....	.....	4	240
Big Bend	135	400	517	717	708	9	.....	9	102
Bruce, village	131	339	273	612	612	.....	.....	2	180
Dewey	102	299	265	564	564	.....	.....	2	119
Flambeau	69	141	134	275	275	.....	.....	.....	6)
Grant	79	230	173	403	433	.....	.....	2	140
Grow	42	136	107	243	243	.....	.....	1	42
Hawkins	57	165	122	287	287	.....	.....	1	54
Ladysmith, city	365	947	773	1,720	1,719	1	.....	16	350
Lawrence	82	398	164	562	562	.....	.....	1	235
Marshall	62	223	104	327	326	.....	1	2	143
Rusk	66	149	145	294	294	.....	.....	8	34
Stirkland	54	138	136	274	274	.....	.....	1	30
Stubbs	215	541	455	995	975	.....	.....	4	204
Thornapple	78	265	167	432	432	.....	.....	4	95
Tune	156	394	310	704	704	.....	.....	5	153
Washington	54	145	129	274	252	.....	22	5	44
Total	1,894	5,517	4,201	9,748	9,715	10	23	64	2,205

APOLLONIA.

Apollonia, Rusk Co. Population 275. Not incorporated. Located on the M., St. P. & S. Ste. M. Ry. 10 miles west of Ladysmith, the county seat, 1 mile from Bruce, the nearest banking point, 96 miles from Rhinelander, 115 miles from St. Paul, and 128 miles from Superior. Western Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has one general store, a hotel, graded public school employing 3 teachers, Catholic and Congregational churches, a physician,

blacksmith shop and saw mill. Woodworking shop would be best suited to the village. Wood is used for fuel obtained from the vicinity. Some help can be secured in the vicinity.

The village is located in a good farming country and about 50 per cent of the land suitable for crop raising is improved. The land is mostly level and a small per cent is swampy and sandy.

BRUCE.

Bruce, Rusk Co. Population 612. An incorporated village located on the M., St. P. & S. Ste. M. Ry. and on the Chippewa river, 8 miles west of Ladysmith, the county seat, 129 miles from Superior, 140 miles from Ashland, 66 miles from Chippewa Falls and 118 miles from St. Paul. Western Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has a bank, drug store, 1 grocery, 1 hardware and 2 general stores, 4 hotels, 1 boarding house, graded public school employing 6 teachers, 2 physicians, 1 lawyer, 1 bakery, shoe shop, meat markets, barber shop, blacksmith shop, and a creamery. A weekly newspaper is published. A first class hotel is needed.

There are several water powers in the vicinity of the village which when developed will be a great advantage to this place as a manufacturing center. Wood in the immediate vicinity insures cheap fuel. Vegetables could be supplied for canning, and clay, sand, peat and timber are the natural products. A large number of men can be secured here to work the entire year.

The surrounding country is good for farming and is destined to become one of the best dairying and stock raising sections in northern Wisconsin. The soil is a rich black loam and is very productive. There are two logging railroads leading northward which as the country develops will become public carriers adding materially to the village in a commercial way. There is a good opening here for any kind of manufacturing establishments.

GLEN FLORA.

Glen Flora, Rusk Co. Population 200. An unincorporated village located on the M., St. P. & S. Ste. M. Ry. in the eastern part of the county, 11 miles from Ladysmith, the county seat and banking point, 84 miles from Chippewa Falls, 147 miles from Superior and 135 miles from St. Paul. Western Express. Telegraph and telephone connections. Good shipping facilities and passenger service.

The village has small shade trees, graded streets, drug store, 1 hardware and 2 general stores, 1 hotel, 2 boarding houses, graded public school employing 4 teachers, a physician, a

lawyer, 2 churches, opera hall, blacksmith shop and a saw and planing mill. A good hotel is needed.

There is an undeveloped water power that can be utilized for manufacturing purposes. Wood is used for fuel obtained from the adjacent country. The country is too thinly settled to furnish raw materials for canning. Clay, sand, timber and stone can be supplied. Some help can be secured here.

The surrounding country is all good for farming and only about 20 per cent of the land is improved. The unimproved lands are covered with forest of hemlock, birch, maple, elm and bass wood timber. This is a natural grazing country and dairying will be the chief industry. Any kind of manufacturing using timber products will do well here.

INGRAM.

Ingram, Rusk Co. Population 500. An unincorporated village located on the M., St. P. & S. Ste. M. Ry. in the eastern part of the county, 15 miles from Ladysmith, the county seat, 145 miles from St. Paul, 152 miles from Superior, and 89 miles from Chippewa Falls. Western Express. Telegraph and telephone facilities. Shipping facilities and passenger service good.

The village is lighted by electricity, has a drug store, 3 general stores, 1 hardware store, 3 hotels, 1 boarding house, graded public school employing 3 teachers, 1 Catholic and 1 Union church, harness shop, 2 meat markets, 1 blacksmith shop, furniture and carpenter shop and a large saw and planing mill employing from 250 to 400 men. The village needs a bank, a physician, creamery, hub and spoke factory and a first class hotel. There is a small, undeveloped water power. The village can be supplied with clay, sand and timber. Some help can be secured in the village and adjacent country.

The surrounding country is good for farming and especially adapted to dairying and stock raising. Immense crops of clover and timothy are grown. The land is gently rolling, the soil is rich and productive. There are large forests of hardwood timber, besides almost endless quantities of hemlock and spruce pulp wood, making this a fine location for char coal kilns and a pulp mill. Strong inducements are offered for a good class of settlers to locate and clear up the land.



A NORTHERN WISCONSIN SHEEP FARM.

LADYSMITH.

Ladysmith, Rusk Co. Population, 1,720. The judicial seat of Rusk county is located in the central part of the county on the M., St. P. & S. Ste. M. Ry. and on the Flambeau river, 136 miles from Minneapolis, 137 miles from Superior, 148 miles from Ashland, 74 from Chippewa Falls, and 325 from Milwaukee. Western Express. Telegraph and telephone facilities. Good shipping facilities and passenger service.

This city has grown from a small hamlet containing 108 people in 1900 to one of the most important cities in this section of the state. The Flambeau river affords abundance of water power. The city is supplied with an electric light and power plant, 2 banking houses, 2 drug stores, 3 grocery stores, 2 hardware and 3 general stores, a laundry, clothing store, furniture and undertaking store, a racket store, 4 hotels, 1 boarding house, high and graded public schools employing 13 teachers, 3 physicians, 1 dentist, 6 lawyers, Baptist, Christian, Congregational and Methodist churches, a stave and heading mill, 2 pulp and paper mills, a turning factory, saw mills and a full compliment of shops, etc. The high school, court house, jail and other public buildings are substantial structures. Two weekly newspapers are published. Foundries and machine shops are needed.

Water power and steam power are used. The nearby forests furnish cheap fuel. Clay, sand, peat, and hardwood timber are the natural products. Any amount of regular help can be se-

cured here. The fact that there are no idle factories or workshops speaks well for this city as a manufacturing point.

The results obtained from land already improved in the adjacent country show something of the future possibilities of this section as a farming country when the forests have been cleared away. The land is rolling, soil is rich and especially adapted to grasses, and only about 1 acre in 10 is improved. The country is fast developing as a dairy and stock raising section, and all kinds of crops suitable to the climate are raised in abundance.

TONY.

Tony, Rusk Co. Population 400. An unincorporated village located on the M., St. P. & S. Ste. M. Ry. 6 miles east of Ladysmith, the county seat and nearest banking point. Western Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has an electric light plant, 2 general stores, a hotel, a graded school of four departments, Catholic and Methodist churches, an opera house, blacksmith shop, meat markets, wagon shop, saw mill, harness shop and a weekly newspaper.

There is an undeveloped water power. Wood is used for fuel obtained from the surrounding country. Clay, sand and timber are the natural products. This is a good location for a brick yard. Help can be secured in the vicinity.

This is a good farming country and only about 15 per cent of the land is improved. The soil is a clayey loam and the land is level and free from stone. There is an abundance of timber in this section.

WEYERHAUSER.

Weyerhauser, Rusk Co. Population, 300. An unincorporated village located on the M., St. P. & S. Ste. M. Ry., 15 miles west of Ladysmith, the county seat, 5 miles from Bruce, the nearest banking point, 124 miles from Superior, 135 from Ashland, 61 miles from Chippewa Falls and 113 miles from St. Paul. Western Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is located on a level tract of land with good drainage, has a drug store, 1 hardware and 4 general stores, a hotel, a boarding house, graded school employing 4 teachers, 1 physician, meat market, blacksmith shops and a weekly newspaper. A good hotel is needed.

Steam power is used. Wood is used for fuel, obtained from the surrounding country. Small fruits and all kinds of vegetables can be furnished for canning. The village can be supplied

with clay, sand, peat, timber and stone. A limited amount of help can be secured in the vicinity.

The adjacent country is suitable for farming and about 1-5 of the land is improved. Eighty per cent of the land is level and free from stone with about 5 per cent swampy. The village is in need of a creamery and brick yard.



A DAIRY HERD IN A WOOD'S PASTURE IN NORTHERN WISCONSIN.

ST. CROIX COUNTY.

St. Croix county is located in the north-western part of the state near the Minnesota border. The area is 711 square miles, with a population of 26,716 in 1905. Nearly one-fourth of the population is of foreign birth, consisting largely of Norwegians and Germans, but there are also many Canadians, Irish and Swedes. The total area of the county is about 372,000 acres, of which amount 252,000 acres are improved, about 50% of the area of the county. The value of the farms including the buildings is nearly \$12,000,000. The county is well drained by four large streams whose courses are marked by numerous rapids. The Apple river flows through a rough and bluffy country. In the northwestern part of the county down to the Willow river, and the southwest-

ern corner, the soil is of a loamy nature and containing considerable sand but with a tenacious surface. The trees of this region are oak and poplar. In the southern part a richer soil prevails, resembling the light nearly-clay soil of the oak openings of the land in south-eastern Wisconsin, and like it, is rich and productive. The same is true of the land in the north-central part bordering upon the prairie. The central portion of the county is an extensive prairie, which terminates to the east in the Rush river valley, and towards the north in that of Willow river. In the vicinity of New Richmond the prairie crosses the Willow river and stretches northward in detached areas to the county line. The soil is a light loam, which in general is not very deep, but there are some areas in which the soil is deeper, supporting a rich growth of grass; and also some lower tracts, containing small ponds encircled by marshy vegetation, or which when dry, leave a hay marsh. All this prairie soil is capable of yielding rich returns to the intelligent farmer. In the eastern part of the county the soil merges into a loamy clay which extends over a considerable portion of the western half of Dunn county. This region, which has supported an immense wealth of oak, maples, basswood and elms, and in the northern part some pine, possesses one of the richest soils in the northern part of the state and promises generous returns to the dairyman and stock grower. The acreage of the chief crops in 1890 and 1905 was as follows:

	Acreage in 1890.	Acreage in 1905.
Hay	53,156	42,576
Wheat	5,585	3,354
Corn	17,549	14,148
Oats	63,682	93,163
Barley	939	15,735
Rye	4,...	5,465
Flax Seed	2,000	5,708

There are 17 creameries in the county. The price of unimproved land ranges from \$12 to \$25 per acre, while improved land ranges in price from \$35 to \$60 per acre. Hudson is the county seat. The population of the cities, villages and towns for 1905 was as follows:

ST. CROIX COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Baldwin	286	746	704	1,450	1,450	.....	.....	1	237
Baldwin, village	149	317	323	640	639	1	.....	10	120
Cady	206	566	524	1,090	1,090	.....	.....	6	133
Ceylon	191	543	481	1,024	1,024	.....	.....	7	165
Eau Galle	201	526	501	1,027	1,027	.....	.....	4	159
Emerald	152	393	403	796	796	.....	.....	7	145
Erin Prairie	135	370	383	753	753	.....	.....	3	142
Forest	121	311	240	551	551	.....	.....	4	108
Glenwood	209	638	591	1,229	1,229	.....	.....	3	146
Glenwood, city:									
ward 1.....	63	145	145	290	290	.....	.....	.....	.....
ward 2.....	52	117	136	253	253	.....	.....	.....	.....
ward 3.....	96	173	189	362	362	.....	.....	.....	.....
Total, city.....	9.5							9	144
Hammond	157	426	415	841	840	1	.....	.....	119
Hammond, village	102	218	227	445	445	.....	.....	14	77
Hudson	159	444	386	830	830	.....	.....	6	158
Hudson, city:									
ward 1.....	112	270	237	507	507	.....	.....	.....	16
ward 2.....	274	631	701	1,332	1,332	.....	.....	.....	271
ward 3.....	283	698	683	1,381	1,380	1	.....	.....	293
Total, city.....	3.220							30	
Kinnickinnic	122	342	301	643	643	.....	.....	2	142
New Richmond, city:									
ward 1.....	124	253	256	509	537	*2	.....	.....	.....
ward 2.....	169	331	410	744	744	.....	.....	.....	.....
ward 3.....	100	308	233	541	541	.....	.....	.....	.....
Total, city.....	1.824							23	343
Pleasant Valley	89	221	169	390	390	.....	.....	3	86
Richmond	130	372	342	714	714	.....	.....	10	155
†River Falls, city:									
ward 1.....	43	64	83	147	147	.....	.....	5	21
Rush River	128	309	273	582	582	.....	.....	7	111
St. Joseph	204	537	512	1,049	1,48	1	.....	7	211
Somerset	250	792	700	1,492	1,492	.....	.....	7	262
Springfield	301	745	686	1,431	1,431	.....	.....	22	222
Stanton	137	413	339	752	752	.....	.....	.....	171
Star Prairie	171	596	509	1,105	1,105	.....	.....	3	153
Star Prairie, village..	63	127	137	264	264	.....	.....	6	38
Troy	141	396	345	741	711	.....	.....	7	172
Warren	158	417	364	781	780	1	.....	3	136
Total	5,286	13,758	12,958	26,716	26,703	4	3	209	4,828

*2 Chinamen.

†For total see Pierce Co.

BALDWIN.

Baldwin, St. Croix Co. Population, 640. 20 miles from Hudson, 27 miles from Menomonie and 51 miles from Minneapolis. C. St. P. M. & O Ry. There are no electric lines. Daily stages to New Centerville and Martell. Water-works, telephone system and electric light plant. Western Union telegraph. American Express.

Baldwin is a new town with all modern improvements. It is located in the richest part of St. Croix county. There are no factories located here at the present time. Coal and wood are used for fuel, the former being shipped from St. Paul. An increased labor supply can be secured from

the surrounding country. There is near the city a large deposit of clay which has been found by geological test to be most excellent for the manufacture of hard-brick. Tobacco of good quality is being raised near this town and considerable interest is being manifested in its cultivation. There is especially desired at this place a brick and tile works, a canning factory and tobacco warehouses. There are located here 1 bank, 2 drug stores, several grocery and drygoods stores, 1 weekly newspaper and 5 churches. There are 3 physicians, 3 lawyers and 5 teachers are employed in the public schools. The 2 hotels and 2 boarding houses now located at Baldwin, furnish ample accommodations.

DEER PARK.

Deer Park, St. Croix Co. Population, 300. 25 miles from Hudson, 12 miles from New Richmond and 45 miles from St. Paul. C. St. P. M. & O. R. R. Telephone system. Western Union telegraph. American Express.

Wood and coal are the principal fuels, wood being furnished in large quantities from the surrounding country. There are several promising deposits of clay near this place. There are many traces of iron but no extensive mining operations have been undertaken. There is 1 bank but no drug store. There are 2 churches. There is 1 physician but no lawyer. Nearly all the land surrounding Deer Park is under cultivation. Should a canning factory or pickling factory be located here, vegetables could be supplied in large quantities. This place is in need of a good hotel.

HAMMOND.

Hammond, St. Croix Co. Population, 445. 17 miles from Hudson and 260 miles from Milwaukee. C., St. P., M. & O. R. R. Western Union telegraph. American Express.

Hammond is an incorporated village. Wood and coal are used for fuel; wood is furnished by the surrounding country while coal is shipped from St. Paul. There are no factories in the village at the present time. The surrounding country is an excellent agricultural district. Fruit and vegetables are raised in large quantities. A canning factory would find this a good location. The surrounding country can be drawn upon for about 150 laborers. There is located at Hammond 1 bank, a drug store, the usual number of retail stores

and repair shops; 3 churches and 1 weekly paper. There is 1 small hotel. Hammond has 1 physician but no lawyer.

HUDSON.

Hudson, St. Croix Co. Population, 3,420. 19 miles from St. Paul, 350 miles from Madison and 331 miles from Milwaukee. C. St. P. M. & O. R. R. The waterworks system offers excellent water for household and manufacturing purposes. Telephone system, electric light plant. Western Union telegraph. American Express.

Hudson is the county seat of St. Croix county located on the St. Croix river where there is an extensive water power. Fruit and vegetables are furnished in large quantities from the surrounding country. Clay, sand and timber are the principal raw materials. There is one unoccupied factory building in this city which was formerly used as a box factory. Any kind of manufacturing plant will receive reasonable inducements to secure its location. There are now located here 3 banks, a large number of stores, saw mill, 2 breweries, a box factory, broom factory, a cold storage house and extensive railroad machine shops. There are 6 physicians, 6 lawyers, and 20 teachers employed in the public schools. There are also 8 churches, a Carnegie free library and 3 weekly newspapers.

Hudson is not at present a summer resort but the surrounding country offers many advantages for the advertising of this city to induce tourists and summer visitors to come here.

NEW RICHMOND.

New Richmond, St. Croix Co. Population, 1,824. 18 miles from Hudson and 35 miles from St. Paul. Wisconsin Central and C. St. P. M. & O. R. R. There is a good water-works system, telephone system and electric light plant. Western Union telegraph. American and National Express.

New Richmond is located on the Willow river at which point there is a considerable water power practically all of which is at present utilized. Sand, clay, peat and lumber are obtainable in abundance. There are many traces of iron in the surrounding country. Owing to the large quantities of vegetables, corn and berries raised annually, a canning factory would find this place a most convenient location. Increased help can be furnished from the surrounding neighborhood. There are now located here 2 banks, 3 drug stores, several general stores, a flour mill of 5 hundred barrels capacity, a sawmill with a cut of 20,000,000 ft. per year, a newspaper, cement factory and machine and repair shops. A wood-working and novelty plant which at one time did a prosperous business in this city has been closed and there

is now an excellent opportunity for the re-establishment of this business. Local business men are prepared to furnish some capital in order to have this plant reopened. There are 4 physicians, 3 lawyers and 17 teachers in this city. New Richmond is anxious to secure a first-class hotel and to any party who will erect such a hotel at a cost of approximately \$15,000, site worth about \$2,000 will be donated. New Richmond has many advantages as a summer resort being visited annually by a large number of summer visitors.

NORTH HUDSON.

N. Hudson, St. Croix Co. Population, 800. 1 mile from Hudson, the nearest banking point. Located on the C., St. P., M. & O. Ry. Western Union telegraph. American Express.

There is a good water power at this place. Wood for fuel purposes is furnished in abundance by the surrounding country. Coal is shipped from St. Paul and Minneapolis. The surrounding country can be drawn upon for a large increase in the labor supply. There are no unoccupied factories here at the present time. A shoe factory is especially desired here. The railroad repair shop of the Omaha line are located at this place.

SOMERSET.

Somerset, St. Croix Co. Population 400. 8 miles from New Richmond, the nearest banking point, 24 miles from St. Paul. Telephone system and electric light plant. Somerset is not located on a railway, being about two and a half miles from the Wisconsin Central line. Western Union telegraph. National Express.

There is a water power with from 500 to 700-horse power not yet utilized. Wood is the principal fuel which is supplied by the neighboring country. There are some extensive deposits of brick clay of a very fine quality near the village. Sand and stone also exist in large quantities. There are no factories here at the present time but a labor supply could easily be had from the surrounding country. A brick yard would be a suitable industry at this place. Somerset is also in need of a bank. It occupies a beautiful location on the Apple river with unsurpassed scenery. Launches can navigate the river for a distance of over two miles. This city is within eighteen miles of the terminus of the twin city electric lines. A small hotel at this point would meet the requirements of the growing summer resort business.

WILSON.

Wilson, St. Croix Co. Population 300. 30 miles from Hudson, 12 miles from Baldwin, 15 miles from Menomonie and 61 miles from St. Paul. Baldwin and Menomonie are the nearest banking points. C., St. P., M. & O. Ry. Western Union telegraph. Telephone connection. American Express.

Wilson is situated in one of the finest dairy districts in the State of Wisconsin. Special efforts are being made to secure the extension of this industry. Wood is the principal fuel used which is obtained from the surrounding country. There is no bank at this place. Two general stores supply the village with its commodities. There are no factories here at the present time, since the timber has been cut. There is 1 physician but no lawyer. The raw materials of this district are confined largely to clay and stone. Iron has been found in considerable quantities but no extensive mining operations have as yet been undertaken. The people of Wilson and surrounding country are desirous of securing the location of a bank. There is only 1 hotel which is inadequate for the village and a larger hotel is needed. Wilson is not at present a summer resort but has many advantages in that direction. A lake is situated within a quarter of a mile from the village

WOODVILLE.

Woodville, St. Croix Co. Population 400. 22 miles from Hudson. C., St. P. M. & O. Ry. No electric railway connections. Telephone system. Western Union telegraph. American Express.

Wood is the principal fuel which is furnished by the surrounding country. Nearly all the land surrounding this place is now under cultivation, and vegetables are being raised in large quantities. Such raw materials as clay, sand, stone and timber exist in abundance. There is 1 bank, 1 drug store and several general stores. There are also 3 churches located here. There is 1 physician but no lawyer. There is 1 unoccupied factory building in this city which was at one time used as a heading mill. A canning factory or cheese factory would find this an excellent location owing to the large quantities of vegetables raised and the tendency toward developing the dairy industry.

SAUK COUNTY.

Sauk county is situated in the southwestern part of the state on the Wisconsin river. It has an area of 820 square miles. The population in 1905 was 32,825, of which number 5,589 were foreign born, Germans representing over 70% of the total. Being an old county, practically all of the land available for farming is now under cultivation. The total farm area in 1905 was 459,860 acres, of which 244,535 acres were improved land. The improved farm area of the county was increased nearly 20,000 acres during the last fifteen years. However, a large increase has occurred in the valuation of agricultural lands including improvements, the valuation in 1905 being \$17,993,926 as against only \$9,431,531 in 1890. Numerous bluffs and the terminal moraine in the eastern part of the county, combined with the stream erosion in the western driftless portion, makes the surface of the county as a whole very hilly. The eastern portion is covered with a heavy mantle of drift, consisting of boulder clay, sand and gravel. An excellent drainage system is afforded by the Wisconsin and Baraboo rivers and their tributaries. The soils along the Wisconsin river and north of the Baraboo river are a fertile sandy loam. South of the Baraboo river the soils are mainly a light clayey loam emerging into the medium and heavier clayey loams in the western part. This western area ranks favorably with the wealthiest agricultural soils in the state. Away from the principal rivers there is marshy soil. The chief crops and the acreage of each in 1890 and 1905 were as follows:

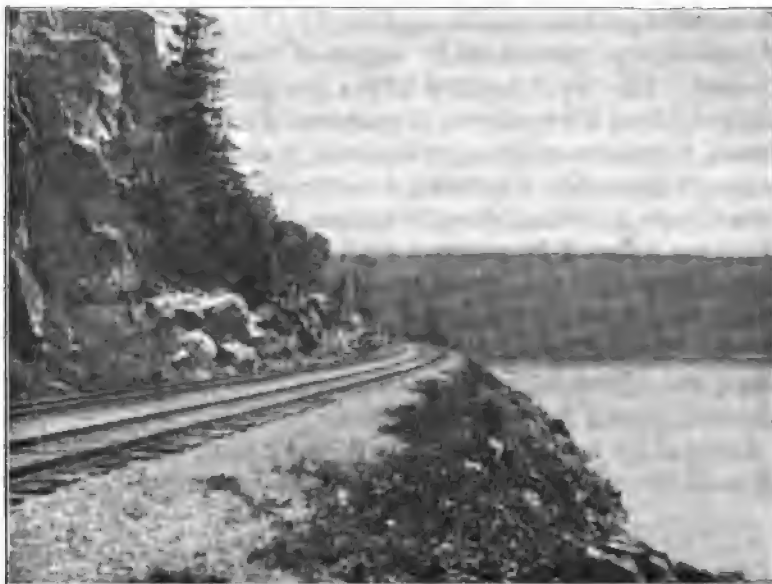
	Acreage in 1890.	Acreage in 1905.
Oats	44,198	56,758
Barley	1,434	4,810
Rye	10,686	10,692
Corn	38,064	44,777
Hay	46,058	51,266
Potatoes	4,032	9,000

During the present year a considerable acreage has been devoted for the first time to the raising of sugar beets. The dairy interest in recent years has grown to considerable proportions and is now represented by 14 cheese factories, 22 creameries and

7 skimming stations. Practically no good unimproved land remains except in small tracts owned in connection with improved land. Such lands average about \$35.00 per acre. Improved farm land ranges from \$40 to \$110 per acre according to location and quality. Baraboo is the county seat. The following table shows the population statistics of the cities, villages and towns in the county in 1905:

SAUK COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Baraboo	321	717	657	1,374	1,374	...	...	19	253
Baraboo, city:									
ward 1.....	568	964	1,109	2,073	2,045	28	...	50	375
ward 2.....	586	1,105	1,189	2,294	2,230	4	...	53	589
ward 3.....	348	709	759	1,468	1,468	...	...	21	309
Total, city.....	5,635								
Bear Creek	175	469	467	936	936	...	...	7	167
Dellona	119	339	301	640	640	...	...	6	124
Delton	217	480	421	901	901	...	...	19	146
Excelsior	190	489	437	926	926	...	...	5	132
Abie man, village	101	244	217	461	461	...	...	1	96
Fairfield	165	364	318	672	672	...	...	13	111
Franklin	221	684	549	1,213	1,213	...	...	4	201
Freedom	194	604	466	1,070	1,070	...	...	4	244
North Freedom, vil.....	162	290	288	578	578	...	...	15	111
Greenfield	178	430	419	849	849	...	...	9	136
Honey Creek	194	500	431	931	931	...	...	5	206
Ironton	292	658	612	1,270	1,271	...	...	25	219
La Valle	213	572	475	1,047	1,047	...	...	7	189
La Valle, village.....	108	172	187	359	359	...	...	10	61
Merrimack	123	292	247	539	539	...	...	4	91
Merrimack, village	82	168	165	333	333	...	...	11	67
Prairie du Sac	113	261	229	500	500	...	...	2	86
Prairie du Sac, village.....	202	319	352	671	671	...	...	10	101
Sauk City, village.....	273	347	401	748	748	...	...	10	113
Reedsburg	225	655	526	1,181	1,181	...	...	9	192
Reedsburg, city:									
ward 1.....	350	581	588	1,169	1,169	...	...	4	246
ward 2.....	245	646	700	1,346	1,346	...	...	25	136
Total, city, 2,515									
Spring Green	120	305	276	581	581	...	...	7	110
Spring Green, village.....	196	261	409	770	770	...	...	18	131
Sumpter	139	364	302	666	666	...	...	7	133
Troy	183	487	427	914	914	...	...	9	207
Washington	237	646	555	1,201	1,201	...	...	12	226
Westfield	265	698	592	1,290	1,290	...	...	8	232
Winfield	165	428	326	754	754	...	...	8	171
Woodland	229	590	510	1,100	1,100	...	...	16	216
Total	7,589	16,908	15,917	32,825	32,793	32	...	414	6,212



DEVIL'S LAKE—THE NOSE.

ALBEMANS.

Albemans, Sauk Co., is an incorporated village of 461 inhabitants; is located on the C. & N. W. Ry., 176 miles from Chicago, 129 miles from Milwaukee and 43 miles from Madison. First class facilities for receipt and shipment of freight. Eight passenger trains daily. Telegraph and telephone. American Express.

There is a small undeveloped water power about a mile from the village. Such raw materials as fruit, vegetables, clay and sand stone can be supplied. A brick yard or pickle factory is best suited for the place. Plenty of help can be secured. The village has no bank, drug store or electric light plant but is supplied with 3 groceries, a hardware, 3 general stores, harness shop, 2 blacksmith and wagon shops, a furniture store, meat market, hotel, several boarding houses, 1 physician, a graded school, 2 large stone quarries, lumber yards, coal yards, feed mills, etc.

Nearly all the land in this locality, suitable for farming, is improved. The soil is a sandy loam.

BARABOO.

Baraboo, Sauk Co., is a city of 5,335 population, is located on the C. & N. W. Ry., 167 miles from Chicago, 119 miles from Milwaukee and 37 miles from Madison. Excellent freight and passenger facilities. Telegraph and telephone. American Express.

This city is the end of a freight division of the C. & N. W. railroad. Such raw materials as clay, sand, stone, peat, iron,

fruit and vegetables could be supplied and plenty of help procured. A cold storage plant could be supported here. A sanitarium is desired. The city is supplied with a gas plant, an electric light plant, 2 banks, 5 drug stores, 12 groceries, 4 hardwares, 3 general stores, 4 department stores, 3 laundries, 4 shoe stores, 4 jewelry stores, 2 breweries, 4 bakeries, 5 barber shops, 1 book store, 2 newspapers, 3 clothing stores, 2 harness shops, 5 livery stables, 2 furniture stores, 1 fur store, 1 woolen mill, 1 linen mill, a nursery, railroad shops, a florist, china store, 13 churches, 5 hotels, 6 boarding houses, 7 physicians, 11 lawyers, a public school employing 40 teachers, a public library, park, fine streets, shade trees, etc. There is a good opening here for a foundry for some energetic person understanding the business.

Some of the land in this locality is rough, stony and sandy but all is fertile and excellent for general farming purposes.

IRONTON.

Ironton, Sauk Co., is an unincorporated village of about 200 population; is located $2\frac{1}{2}$ miles from La Valle, the nearest railroad station. Telephone.

A canning factory or brick yard is best suited for this place. Inducements would be offered to secure some such industry. Vegetables, clay, sand, timber and stone can be supplied. The village has a drug store, 4 groceries, 1 hardware, 2 general stores, a harness shop, a shoe shop, 2 blacksmith and repair shops, a hotel, 1 physician, 2 churches, a park, and plenty of shade trees.

Some of the best farming lands in the state are in this locality. About $\frac{1}{2}$ the land, suitable for farming purposes is as yet unimproved.

LA VALLE.

La Valle, Sauk Co., is an incorporated village. Population 359. Is located on the C. & N. W. Ry., 190 miles from Chicago, 143 miles from Milwaukee and 60 miles from Madison. Telegraph and telephone. Good freight and passenger facilities. American Express.

Wood for fuel is procured from the farmers near by. Such raw materials as fruit, vegetables, timber, stone, clay and sand can be supplied. Seventy-five laborers can be secured. The village is supplied with a bank, drug store, 4 groceries, 2

general stores, a hardware, grist mill, a physician, graded school and 2 hotels.

Most of the land here suitable for farming is improved. Some of the land is sandy, some swampy, and about one-fourth is rough.

LIME RIDGE.

Lime Ridge, Sauk Co., is a small unincorporated village of about 200 people. Located 9 miles from La Valle the nearest railroad station. Telephone.

A railroad is being graded toward this place from La Valle. Such raw materials as clay, sand, stone, timber, fruit and vegetables can be supplied. The village is supplied with a general store, grocery, hardware, 2 blacksmith shops, a barber shop, feed and planing mill, lumber yard, 1 physician, and a hotel.

The soil in this locality is excellent, stock raising is the leading occupation of the farmers. Tobacco cultivation is also coming to the front.

LOGANVILLE.

Loganville, Sauk Co., is an unincorporated village. Population about 300; is located 8 miles from Ablemans, the nearest railroad station. Telephone.

Inducements would be offered for small factory; fruit, vegetables, clay, sand, stone and timber can be supplied. A canning factory or brick yard is best suited for the place. Help can be secured. The village has 2 dry goods stores, a hardware, groceries, 3 hotels, a physician, meat market, barber shop, farm machinery dealers, undertaker, blacksmith and wagon shop. A railroad is being built in the direction of this village.

Some of the best farming lands in the state are in this locality. Some of it is rough but all suitable for general farming. The soil is a clayey loam.

MERRIMAC.

Merrimac, Sauk Co., is an incorporated village. Population, 333; located on the C. & N. W. Ry., 156 miles from Chicago, 108 miles from Milwaukee, and 26 miles from Madison. Excellent freight and passenger facilities. Telephone and telegraph. American Express.

Coal is shipped from Chicago and Milwaukee, wood is procured in this locality. Fruit, vegetables, white brick clay, sand, stone, and timber can be supplied. A canning factory, wagon shop or brick yard is best suited for the place. The village is

already supplied with 2 groceries, 3 general stores, a hardware, 2 blacksmith shops, a creamery, hotel, 2 boarding houses, a graded school and 2 physicians.

This village is on the banks of the Wisconsin river, and some of the land is very sandy. But the soil away from the river is a very fertile, sandy loam.

NORTH FREEDOM.

North Freedom, Sauk Co., is an incorporated village of 578 inhabitants; is located on the C. & N. W. Ry., 173 miles from Chicago, 126 miles from Milwaukee and 43 miles from Madison. Good freight and passenger facilities. Telegraph and telephone. American Express.

Wood for fuel is procured in the locality and coal is shipped from Milwaukee and Chicago. Such raw materials as fruit, vegetables, clay, iron, sand, stone, timber and mineral paint can be supplied. A paint factory, brick yard, farm tool factory, wooden ware establishment or a canning factory is best suited for this place. Any amount of labor can be secured in the village and the surrounding country. This place is already supplied with a bank, drug store, 3 groceries, 2 hardwares, 2 dry goods stores, a restaurant, furniture store, clothing store, millinery, wall paper and paint shop, confectionery, meat market, farm implement establishment, 3 hotels, 2 boarding houses, 3 physicians, a public school employing 4 teachers, fine dwellings, streets, shade trees, churches, stone quarries, and a newspaper.

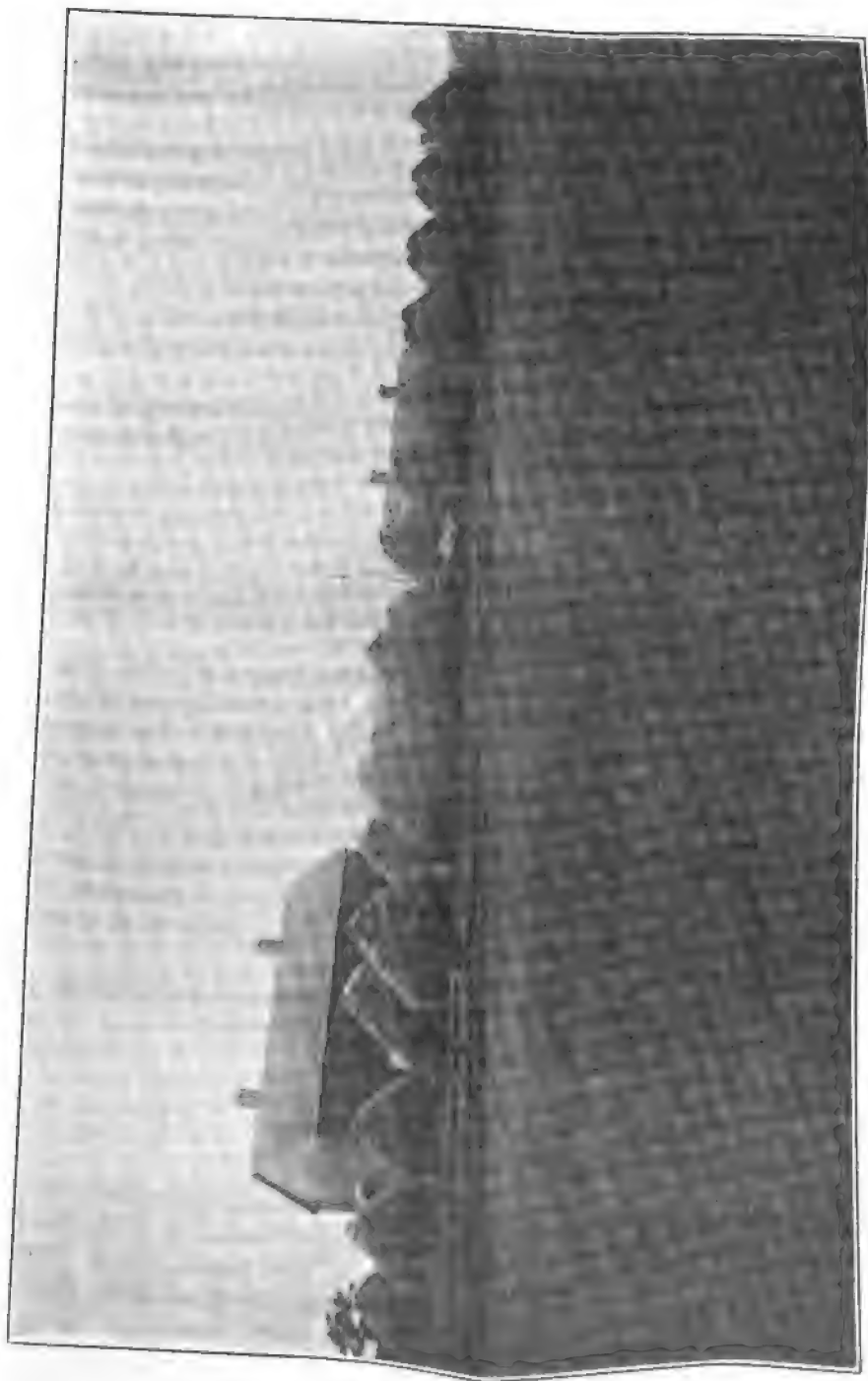
There is some sandy land in this locality and a very little low land but most of it is level, free from stone and is excellent for general farming purposes.

PRAIRIE DU SAC.

Prairie du Sac, Sauk Co., is an incorporated village. Population, 671; is located on the C. M. & St. P. Ry., 164 miles from Chicago, 155 miles from Milwaukee and 33 miles from Madison. Telephone and telegraph. Fairly good freight and passenger accommodations, U. S. Express.

This place would offer a free site and other inducements for a canning factory, cement block factory or a wood working establishment. Help can be procured. Such raw materials as fruit, vegetables, clay, sand, stone, peat and timber can be supplied. The village is supplied with a bank, drug store, 4 groceries, 5 hardwares, 4 general stores, 2 jewelry stores, 3 blacksmith shops, 2 farm implement dealers, a meat market, feed mill, millinery establishment, candy and fruit store, 3 physicians, 2 lawyers, a high school, 2 hotels and boarding houses.

Most of the land suitable for farming purposes is improved.



FARM SCENE NEAR PRAIRIE DU SAC.

REEDSBURG.

Reedsburg, Sauk Co., is a city of 2,515 population; is located on the C. & N. W. Ry., 180 miles from Chicago, 143 miles from Milwaukee, and 80 miles from Madison. Excellent freight and passenger facilities. Telephone and telegraph. American Express.

The city is supplied with 3 banks, 2 drug stores, 4 groceries, 3 hardwares, 1 department store, 3 general stores, a laundry, 2 harness shops, jewelry stores, woolen mills, furniture factory, planing and feed mill, brewery, canning factory, creamery, flour mill, wagon and blacksmith shops, newspapers, machine shops, sash and door factory, hotels and boarding houses, 6 physicians, 7 lawyers, a public school employing 16 teachers, an armory, opera house, 6 churches, good sewage system, etc.

About three-fourths of the land, suitable for farming, is improved. About one-fourth of the land has a sandy soil and one-eighth is rough.

SPRING GREEN.

Spring Green, Sauk Co., is an incorporated village. Population, 770. Located on the C. M. & St. P. Ry., 168 miles from Chicago, 119 miles from Milwaukee and 37 miles from Madison. Telephone and telegraph. Fairly good freight and passenger accommodations. United States Express.

Such raw materials as fruit, vegetables, clay, sand, peat, stone and timber can be supplied. A canning factory is best suited for the place. About eighty laborers can be procured. The village is supplied with an electric light plant, a bank, 2 groceries, 2 drug stores, 2 hardwares, 5 general stores, 2 barber shops, farm implement dealers, paraffine factory, blacksmith and wagon shops, 2 shoe stores, a photograph gallery, jewelry store, newspaper, harness shops, livery stables, 3 churches, 2 dentists, 3 physicians, 1 lawyer, cigar factory, 2 hotles, cement walks, shade trees, opera house, library, etc.

About one-half the soil here is very sandy, the remainder is a sandy loam and excellent for farming purposes.

SAWYER COUNTY.

Sawyer county is located in the north central part of the state. This is one of the largest counties in the state, having an area of 1,342 square miles. The population in 1905 was only 5,044, a gain of 1,451 over the census of 1900. One-fifth of the population is of foreign birth, consisting mainly



A FIELD OF OATS IN A NEW CLEARING, NORTHERN WISCONSIN.

of Norwegians, Canadians and Swedes. It is only within recent years that any attempt has been made to carry on the business of agriculture. Out of a total area of 858,880 acres, the present farm area is but 22,932 acres, or less than 3% of the county. There were only 11 farms in the entire county in 1890. The topography of the western and northwestern parts is rolling and hilly, being characteristic of morainal deposits. The eastern and southern sections of the county have a much less rugged surface. Lakes and streams are abundant throughout the county furnishing an excellent drainage. The soils are largely light clayey loams. This soil is generally more stony than the other soils of the northern part of the state. Over large portions however, where the lands are sloping, boulders are almost entirely absent. In most cases the amount of stones is not enough to interfere permanently with cultivation. The forest growth of this soil was originally very dense, consisting principally of birch, basswood, hemlock and white pine. The pine has been nearly all cleared away, but much hardwood still remains. This soil is in general coarser and more porous than the loamy clays of the northern counties but is better suited to corn and potatoes. It can also maintain an excellent dairy industry. By a clover rotation with small grains and other crops and by a wise selection of farm crops in connection with a dairy and stock industry, a steady income to the community is assured. Areas of sand of considerable extent occur in the western and northwestern parts. Irregular areas of humus soil, composed mainly of muck and peat, are found in different sections of the county. The principal products of the county during 1905 were wheat, oats and hay. There is one cheese factory in the county. The price of unimproved cut over land ranges from \$5. to \$10. per acre. The price for improved farm land ranges from \$20 to \$40 per acre. Hayward is the county seat. The population of the local political divisions in 1905 was as follows:

SAWYER COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Hayward	496	1,603	1,297	2,900	2,825	*1	74	17	604
Radisson	121	410	264	674	671	....	3	4	104
Reserve	174	564	453	1,017	93	....	924	5	281
Sand Lake	72	179	144	323	282	....	41	2	78
Winter	22	77	53	130	130	....	....	....	34
Total	885	2,833	2,211	5,044	4,001	1	1042	28	1,101

*1 Chinaman.

HAYWARD.

Hayward, Sawyer Co., is an unincorporated city of about 2,000 inhabitants; is located on the S. and E. and the C. St. P. M. & O. railroads, 108 miles from Eau Claire, 75 miles from Bayfield and 125 miles from St. Paul. Four passenger trains daily. Good facilities for receipt and shipment of freight. Telegraph and telephone. American Express.

A good opportunity is offered here for a brick yard or wood working establishment of any kind. Surh raw materials as clay, sand, stone, vegetables and timber can be supplied. Plenty of help can be engaged. A magnificent water power can be developed here. An abundance of wood for fuel can be procured in the immediate locality. Hayward is already supplied with an electric light plant, 2 banks, 2 drug stores, 6 groceries, 3 hardwares, 6 general stores, a laundry, match factory, newspaper, lumber manufacturing company, flouring mills, hotels, a public school system employing 22 teachers, 3 attorneys at law, 3 physicians, paved streets, brick walks, shade trees, parks and an artificial lake. It is somewhat of a summer resort.

The soil in this locality is very productive. Only about one tenth of the land suitable for farming is as yet improved.

SHAWANO COUNTY.

Shawano county is situated in the northeastern part of the state. The area is 1,135 square miles. The population in 1905 was 31,037, a gain of 3,562 over the census of 1900. There are in the county 6,850 persons of foreign birth, of whom 4,386 are Germans. Poles are second in number. The total area occupied by farms in 1905 was 353,541 acres, of

which only 83,172 acres were improved. The value of these farms in 1905, including improvements, was \$10,501,586, as compared with \$3,706,060, showing a gain of \$6,795,526 or over 187% in 15 years. This county still possesses large unsettled tracts, offering excellent opportunities to the homeseeker. The present farm acreage is but 48% of the area of the county. The surface of the county is more or less rolling and is covered with a veritable thickness of glacial drift forming hills and ridges. Throughout nearly the entire county the soil is a clayey loam of the lighter varieties. It is a comparatively heavy soil to work, has a large capacity for holding water, and will not leach as badly as prairie loam or sandy soils. There are parts of the county where the soil is very stony. In all parts of the county where farms have been cleared on this soil, it has yielded good crops of grain, grasses and corn. It is, however, too coarse grained to produce the strongest grass or wheat, but will maintain a profitable dairy and stock industry. While not so good a potato soil as the sandy loam, it nevertheless gives good returns in this line of farming. In the eastern part of the county along the Wolf river occur considerable areas of sandy loams. Irregular areas of humus soils are found along many of the stream channels. The chief products of the county and the acreage devoted to each in 1890 and 1905 were as follows, :

	Acreage in 1890.	Acreage in 1905.
Wheat	12,777	8,921
Oats	15,066	32,754
Barley	746	7,199
Rye	2,497	4,439
Corn	3,488	6,324
Hay	20,795	36,207
Potatoes	1,613	4,446

That the dairy possibilities of this county are being realized is shown by the great strides in this industry. In 1905 there were 52 cheese factories, 9 creameries and 2 skimming stations in the county. There is still considerable hardwood, but the pine has nearly all been cut. The price of cut over and unimproved lands which can be made tillable ranges from \$5 to \$30 per acre. Improved land ranges in price from \$30 to as high as \$100 per acre. A considerable portion of the

northern part of the county is occupied by the Menomonic Indian Reservation. Shawano is the county seat. The population of the cities, villages and towns in 1905 was as follows:

SHAWANO COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Almon	123	350	310	660	660	.....	.....	4	113
Angelica	234	739	659	1,398	1,398	.....	.....	2	212
Aniwa	123	338	302	640	690	.....	.....	3	123
Aniwa, village	76	193	160	353	353	.....	.....	2	90
Belle Plaine	158	575	572	1,147	1,147	.....	.....	14	27
Biramwood	145	369	391	760	739	.....	21	3	107
Biramwood, village...	148	329	372	701	701	.....	.....	14	140
Eland, village	82	187	152	339	339	.....	.....	2	78
Fairbanks	180	678	452	1,030	1,030	.....	.....	4	203
Tigerton, village	140	339	345	734	734	.....	.....	3	135
Germania	67	207	177	384	383	1	.....	1	66
Grant	225	604	576	1,180	1,180	.....	.....	1	156
Green Valley	212	633	496	1,129	1,129	.....	.....	3	211
Hartland	274	765	701	1,466	1,466	.....	.....	4	292
Herman	224	662	601	1,263	1,233	.....	30	5	207
Stockbridge Ind. Res.	74	228	203	431	431	1	430	8	81
Hutchins	119	326	281	607	601	3	.....	6	91
Mattoon, village	169	539	396	935	935	.....	.....	4	254
Lessor	221	715	587	1,302	1,392	.....	.....	7	196
Maple Grove	284	921	845	1,766	1,766	.....	.....	2	226
Menominee Ind. Res.	402	798	663	1,461	119	1342	.....	30	.....
Morris	155	418	326	744	744	.....	.....	1	181
Navarino	88	254	204	458	458	.....	.....	2	74
Pella	177	531	462	993	983	5	.....	.....	186
Richmond	185	473	427	900	900	.....	.....	.....	154
Shawano, city:									
ward 1.....	219	478	508	986	981	.....	5	11	195
ward 2.....	139	343	285	628	617	3	8	2	146
ward 3.....	190	408	424	832	820	.....	12	13	155
Total, city, 2,446									
Seneca	108	310	275	585	585	.....	.....	1	102
Washington	210	637	504	1,141	1,141	.....	.....	2	222
Cecil, village	73	160	166	326	326	.....	.....	3	67
Waukechon	183	567	476	1,033	1,033	.....	.....	.....	151
Wescott	79	225	209	431	428	6	.....	1	68
Wittenberg	245	668	564	1,232	1,033	199	.....	2	202
Wittenberg, village...	186	505	504	1,009	897	2	110	6	209
Total	5,931	16,462	14,573	31,037	28,890	20	2157	166	5,307

ANIWA.

Aniwa, Shawano Co., is an incorporated village. Population 353. Located on the C. & N. W. Ry., 197 miles from Milwaukee, 119 miles from Manitowoc, and 82 miles from Marshfield. Four passenger trains daily. Facilities for receipt and shipment of freight good. Telegraph and telephone. American Express.

Wood for fuel is plentiful in this locality. Such raw materials as vegetables, sand, brick, clay and abundance of timber can be supplied and help secured. Any woodworking factory

is best suited for the place. The village is supplied with 3 groceries, 2 hardwares, 3 general stores, a shingle and lath mill, 2 saw mills, a meat market, 3 hotels, a boarding house, a creamery, 1 physician, public hall, etc. There is a vacant factory building here that can be obtained at a reasonable price.

About one half of the land in this locality suitable for farming purposes is improved. The soil is a clayey loam, comparatively free from stone, sand and swamps.

BIRNAMWOOD.

Birnamwood, Shawano Co., is an incorporated village. Population 701. Located on the C. & N. W. Ry., 276 miles from Chicago, 191 miles from Milwaukee, and 68 miles from Marshfield. Good freight and passenger facilities. Telephone and telegraph. American express.

There is plenty of wood for fuel in this locality. Such raw materials as clay, sand, stone, timber and vegetables can be supplied, and help secured. Any kind of woodworking industry is best suited for the place. This village is supplied with 3 general stores, a bank, drug store, hardwares, a saw and shingle mill, brick yard, 3 physicians, a lawyer, a public school employing 10 teachers, and hotels and a newspaper.

About 25 per cent of the land in this locality suitable for farming purposes is improved. In this section of the state there is some stony, some marshy, some rough and a little sandy land. But the soil is well adapted to general farming purposes.

BONDUEL.

Bonduel, Shawano Co., is an unincorporated village of about 350 inhabitants. Located on the C. & N. W. Ry. Fairly good freight and passenger facilities. Telephone and telegraph. American Express.

Such raw materials as vegetables, clay, sand, and granite can be supplied and plenty of help engaged. A brick yard is best suited for the place. A good supply of water is to be had. The village is supplied with a bank, 3 general stores, 2 hardwares, a physician, lawyer, graded school, 2 hotels and a boarding house.

The land here is rolling, but all tillable and the soil is first class.

CECIL.

Cecil, Shawano Co., is an incorporated village. Population 326. Located on the C. & N. W. Ry., 8 miles from Shawano, 54 miles from Oconto, 179 miles from Milwaukee and 264 miles from Chicago. Four passenger trains daily. Fairly good facilities for receipt and shipment of freight. Telegraph and telephone. American express.

About one hundred and fifty laborers can be secured for factory work. Such raw materials as clay, sand, and timber can be supplied. This is a good location for another dry goods store. The village is supplied with a bank, a grocery, 2 hardwares, 1 dry goods store, a hotel, meat market, restaurant, 3 blacksmith shops, a saw mill, tailor shop, harness shop, a bicycle shop, church, a physician, 2 boarding houses, a graded school and public buildings. This place is a summer resort town, being located on a chain of very beautiful lakes.

The soil in this vicinity is fertile, level and free from stone.

ELAND.

Eland, Shawano Co., is an incorporated village of 339 inhabitants. Located on the C. & N. W. Ry., 187 miles from Milwaukee, 109 miles from Manitowoc, and 72 miles from Marshfield. Facilities for receipt and shipment of freight good. Twelve passenger trains daily. Telegraph and telephone. American Express.

An almost unlimited supply of wood for fuel can be obtained in this locality. Vegetables, clay for brick, building stone and timber can be supplied. Some wood working industry, a flouring mill or general store is best suited for the place. This village is already supplied with a drug store, 2 general stores, 2 blacksmith shops, 3 hotels, 1 physician, a graded school, and a public park. A first class hotel is desired.

The soil in this locality is a clayey loam and well suited for farming. About one tenth the land is improved. Some of this land is hilly, some stony, and some marshy.

SHAWANO.

Shawano, county seat of Shawano county, is a city of 2,446 inhabitants. Located on the C. & N. W. Ry. 171 miles from Milwaukee, 104 miles from Marshfield, and 70 miles from Wausau. Good shipping facilities. Four passenger trains daily. Telephone and telegraph. American Express.

This is a summer resort town located near Shawano lake which is six miles long and three miles wide, and well supplied with fresh water fish. A splendid 800 horse water power can be developed here. Vegetables, clay, sand, stone and timber can be supplied. Help could be secured for any factory the town would support. A woodenware factory, cold storage, lime

kiln, and boat factory are best suited for the place. An idle factory building can be purchased here at a very reasonable price. Shawano is supplied with 2 banks, 3 drug stores, 7 groceries, 3 hardwares, 6 general stores, a laundry, 3 bakeries, 3 meat markets, news stand, 2 livery stables, 3 blacksmith shops, 3 newspapers, churches, business college, brewery, pulp mill, paper and sulphite mill, a grist mill, 3 elevators, saw mill, 2 hotels, five boarding houses, 5 physicians, 12 lawyers, a high school employing 12 teachers, a public park, shade trees, good streets and walks.

All the land surrounding this place is suitable for farming, and but little more than one third of it is as yet improved. Some of the land is stony, some marshy, and a small portion is sandy.

TIGERTON.

Tigerton, Shawano Co., is an incorporated village. Population 734. Located on the C. & N. W. Ry., 175 miles from Milwaukee, 260 miles from Chicago, and 75 miles from Marshfield. Has good freight and passenger accommodations. Telegraph and telephone. American Express.

There is an undeveloped water power here. Plenty of wood for fuel can be had in this locality. This vicinity can supply vegetables, and an abundance of timber. Any kind of woodworking industry is best suited for the place. Three hundred laborers can be engaged. It is also supplied with a bank, a drug store, 3 general stores, 2 hardwares, a barber shop, wagon shops, a jewelry store, a cigar factory, millinery shop, livery, creamery, harness shop, newspaper, 2 physicians, 2 lawyers, a graded school, hotels and boarding houses. A first class hotel is desired.

But little of the land suitable for farming is improved. The soil is a heavy loam. Dairying is fast becoming a leading industry among the farmers.

WITTENBERG.

Wittenberg, Shawano Co., is an incorporated village having a population of 1,009. Located on the C. & N. W. Ry., 1.3 miles from Milwaukee, 105 miles from Manitowoc and 68 miles from Marshfield. Good freight and passenger facilities. Telephone and telegraph. American express.

Any kind of woodworking establishment is best suited for the town. The village can be furnished with such raw materials as vegetables and timber. About 80 laborers can be procured. The village is supplied with an electric light plant, a bank, drug store, 3 groceries, 3 general stores, 2 hardwares, 2 shoe stores, 2 harness shops, 2 barber shops, 3 blacksmith shops, 3 saw mills, 4 physicians, 1 attorney at law, a public school system employing 7

teachers, a Lutheran Academy, a government Indian school, 3 hotels, a boarding house and a newspaper.

The surrounding country is well supplied with trout streams. It is well adapted for general farming and only about three fifths of the land suitable for this purpose is improved. There is but little stony or swampy land here.

SHEBOYGAN COUNTY.

Sheboygan county is located in the east central part of the state on Lake Michigan. It has an area of 510 square miles. The population in 1905 was 52,070, a gain of 1,725 over 1900. Approximately one-fourth of the population is of foreign birth. Of this number, Germans are largely in the majority, Sheboygan county ranking second in the proportion of its German population. Being an old county, all the land adapted to cultivation has been occupied many years. The total value of the farms including improvements in 1905 was \$19,468,024, a substantial increase over the valuation in 1890. The topography of the county is broken and hilly in the western and northwestern portions. The area adjacent to the lake has a less broken surface, being a part of the former extension of the lake bed. The county possesses most excellent soils, well adapted to all forms of agricultural interests. The soils covering the western half of the county are light and heavy clayey loams of great fertility. The soil of this district is not surpassed in the state. The eastern half of the county is a very heavy clayey loam derived from the red lacustrine clays. A small strip adjacent to the lake in the southern part of the county is covered with sandy soil. In the southwestern part of the county the soils are rich prairie loams, being an extension of the large area of such soils in Washington county. The leading crops and the acreage devoted to each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	27,832	37,144
Barley	24,312	26,482
Rye	7,853	5,100
Corn	9,636	16,205
Hay	41,604	39,722

While Sheboygan is one of the small counties of the state, yet it ranks fifth in barley production and third in the number of cheese factories, of which there are 115. In the amount and quality of cheese product this county has few superior in the northwest.

The small percentage of unimproved land consists of worthless tracts or of small wooded lots owned in connection with improved lands. Improved lands range in value from \$75.00 to \$100.00 per acre. Sheboygan is the county seat. The following table shows the population statistics of the political divisions of the county in 1905.

SHEBOYGAN COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Greenbush	361	502	826	1,728	1,728	.....	.....	36	353
Herman	362	1,054	923	1,977	1,977	.....	.....	13	356
Holland	581	1,250	1,247	2,527	2,527	.....	.....	24	433
Cedar Grove, village....	103	201	210	411	411	.....	.....	8	76
Lima	413	984	923	1,907	1,907	.....	.....	23	359
Lynden	464	870	871	1,741	1,741	.....	.....	15	330
Mitchell	212	526	479	1,005	1,005	.....	.....	6	232
Mosel	162	503	421	924	924	.....	.....	6	163
Plymouth	286	741	703	1,445	1,445	.....	.....	13	261
Plymouth, city:									
ward 1.....	429	842	958	1,800	1,800	.....	.....	.....	.....
ward 2.....	219	483	481	964	964	.....	.....	.....	.....
Total, city, 2,764								38	546
Rhine	224	608	626	1,234	1,234	.....	.....	8	217
Elkhart Lake, vil.....	106	222	240	462	462	.....	.....	3	93
Russell	85	249	198	447	447	.....	.....	.....	91
Scott	293	734	673	1,412	1,412	.....	.....	15	278
Sheboygan	436	1,129	1,062	2,191	2,191	.....	.....	18	314
Sheboygan, city:									
ward 1.....	801	1,651	1,829	3,480	3,480	.....	.....	.....	670
ward 2.....	430	1,023	1,060	2,083	2,083	.....	.....	.....	501
ward 3.....	271	1,009	870	1,879	1,879	.....	.....	.....	491
ward 4.....	754	1,970	1,715	3,685	3,685	.....	.....	.....	861
ward 5.....	709	1,686	1,516	3,202	3,202	.....	.....	.....	618
ward 6.....	426	1,063	914	1,917	1,917	.....	.....	.....	466
ward 7.....	659	1,636	1,514	3,150	3,149	1	.....	.....	611
ward 8.....	1,100	2,462	2,463	4,925	4,924	.....	1	.....	1,042
Total, city, 24,006								106	.....
Sheboygan Falls.....	326	854	736	1,590	1,590	.....	.....	6	311
Sheboygan, village	354	672	739	1,411	1,411	.....	.....	27	288
Sherman	323	938	842	1,780	1,780	.....	.....	13	346
Willson	210	548	520	1,068	1,068	.....	.....	5	214
Total	11,089	26,806	25,264	52,070	52,065	4	1	382	10,531

*1 Chinaman.

ADELL.

Adell, Sheboygan Co. Population, 300. 18 miles from Sheboygan, 9 miles from Plymouth, the nearest banking point. C. M. & St. P. Ry. Telephone system. Fair freight and passenger service. Western Union telegraph. United States Express.

Clay, sand, stone and timber can be obtained in large quantities. The surrounding country can be readily drawn upon for a labor supply. A malting plant is especially desired here.

Adell is dependent at the present time entirely upon the surrounding country it being the market for approximately \$350,-000 worth of farm products annually. A thriving business is carried on with the surrounding country. There is no bank nor drug store. There are 3 grain elevators. The surrounding country is a very rich agricultural district of which 95% is under cultivation.

CEDAR GROVE.

Cedar Grove, Sheboygan Co. Population, 411. 14 miles from Sheboygan, 33 miles from Milwaukee. C. & N. W. Ry. No electric railway at the present time but one is promised to be constructed within a year or two. Telephone system. Western Union telegraph. American Express.

Cedar Grove is an incorporated village in the southeastern part of Sheboygan County, one mile from Lake Michigan. Clay, sand, peat and timber are furnished in large quantities. A canning factory is desired. Vegetables and fruit are raised in large quantities in the surrounding country. There is located at this place a steel range factory and a plant for the manufacture of gasoline engines. There are 2 physicians but no lawyer. There are 3 hotels at this place but a new hotel is greatly desired.

ELKHART.

Elkhart, Sheboygan Co. Population, 462. 18 miles from Sheboygan, 7 miles from Plymouth, the nearest banking point. C. M. & St. P. Ry. There is at present no electric railway connection but a line is promised for 1907. Telephone system and electric light plant. Western Union telegraph. United States Express.

An excellent quality of sand and clay is found near the city. There is no bank at this place. There are 2 grain elevators. Owing to the large quantity of fruit and vegetables from the surrounding country, a canning factory would find this a good location. Corn and peas are the leading products. Elkhart is a rapidly growing summer resort. There are at present 8 hotels furnishing accommodations for several thous-

and summer visitors. Another hotel is needed here to take care of this summer trade.

GLEN BEULAH.

Glen Beulah, Sheboygan Co. Population, 450. 21 miles from Sheboygan, 6 miles from Plymouth the nearest banking point. C. & N. W. Ry. No electric lines. Stage twice daily to Greenbush. Telephone system. Western Union telegraph. American Express.

The surrounding country can be drawn upon for a labor supply. Fruit and vegetables are grown in large quantities in the surrounding country. Not far from this town there is a very extensive deposit of marl suitable for the manufacture of cement. There are located at this place 2 elevators, a grist mill, and the usual number of grocery stores and repair shops. There is no bank and no drug store.

Glen Beulah is situated near a chain of small lakes which attract each year a large number of summer visitors. Elkhart Lake which is a summer resort of considerable importance is not far distant from this place.

OOSTBURG.

Oostburg, Sheboygan Co. Population, 350. 10 miles from Sheboygan and 43 miles from Milwaukee. Sheboygan is the nearest banking point. C. N. W. Ry. Telephone system. Western Union telegraph. American Express.

Oostburg is an unincorporated village in the southeastern part of Sheboygan county about two miles from Lake Michigan. The surrounding country is a wealthy agricultural district producing large quantities of corn and peas for which there is a canning factory. A considerable interest is manifested in this section of the country in the raising of sugar beets and the location of such factory in southern Sheboygan County would be welcomed by the farmers. There is no bank nor drug store at this place. There is a small saw mill and a flour mill. There is 1 physician but no lawyer. The hotel accommodations at this point are limited to about 40 persons.

PLYMOUTH.

Plymouth, Sheboygan Co. Population, 2,764. 15 miles Sheboygan, 55 miles from Milwaukee. C. M. & St. P. Ry., and C. & N. W. Ry. Electric railway to Sheboygan. Telephone system. Western Union and Postal telegraph. American and United States Express. Good freight and passenger facilities.

There is no water power here. The furniture manufactured in this city, and the live stock, grain, flour and other farm

produce constitute the principal railway shipments. There are located at this city furniture factories, machine shops, flour mill, feed mill, and overall factory. There are 2 banks, 3 weekly papers and 6 churches. There are 5 physicians, 2 lawyers and 20 teachers are employed in the public schools. The surrounding country is devoted almost entirely to the dairy industry.

RANDOM LAKE.

Random Lake, Sheboygan Co. Population, 300. 22 miles from Sheboygan, 16 miles from Plymouth, the nearest banking point. C., M. & St. P. Ry. Telephone system. Western Union telegraph. United States Express.

The city is located in a wealthy agricultural district where practically all the soil is under cultivation. Fruit and vegetables are furnished in large quantities, and a canning factory would be welcomed by the village and surrounding country. There are no factories here at the present time. There is no bank and no drug store, but the usual number of other stores. There is 1 physician but no lawyer. A considerable number of summer visitors are annually attracted to this place.

SHEBOYGAN.

Sheboygan, Sheboygan Co. Population, 24,086. Located on Lake Michigan at the mouth of Sheboygan River, 52 miles from Milwaukee, 134 miles from Madison, and 136 miles from Chicago. On C. & N. W. R. R. which operates lines to the north, west and south. A steamship line operates boats daily from Sheboygan to Chicago and intermediate points. Electric railway to Plymouth. Electric street railway. Water-works. Two telephone systems. Gas and electric light plants. Western Union and Postal telegraph. American and United States Express.

The City of Sheboygan occupies one of the most advantageous locations among Wisconsin cities. Its transportation facilities both by rail and water, its proximity to the hardwood forests and iron mines, together with its cheap fuel obtained by lake route from the east, early marked Sheboygan for a manufacturing center of importance. The considerable increase in manufacturing during the last five years and the resulting growth of population shows the realization of these advantages.

In 1905 there were in this city 98 manufacturing establishments with an aggregate capitalization of \$12,165,128, employing 6,034 wage-earners, paying \$2,165,128 in wages and having a product for that year amounting to \$10,086,648. From 1900

to 1905, the number of factories increased 22.5 per cent; capital increased 68.1 per cent; the number of wage-earners increased 20.9 per cent; wages paid increased 39.5 per cent, and the product increased 46 per cent, a record of growth unequelled by any other city of its class. While Racine is the greatest manufacturing city in the world in proportion to its population, occupying first place in capitalization, total annual wages and total product, but in all of which fields Sheboygan is growing faster than Racine, Sheboygan has taken first rank in the proportion of population which is engaged in factory labor. In Racine 20.1 per cent of the population are factory wage-earners while in Sheboygan this proportion is 25.1 per cent.

Sheboygan is known principally as a center for the manufacture of furniture, over 56 per cent of its total number of wage-earners being engaged in the manufacture of this product. While Chicago and Grand Rapids exceed Sheboygan in the production of all kinds of furniture, Sheboygan ranks first in the manufacture of chairs. Other important industries are the manufacture of refrigerators, veneer, boots and shoes, leather, gloves, foundry and machine shop products, musical instruments, toys, knit goods, liquors, brick, mineral and soda waters and the manufacture and wholesale distribution of cheese.

Sand, clay, stone and timber can be had in abundance near the city. The surrounding country can be drawn upon for a large increase in labor. There are no unoccupied factory buildings in the city.

Sheboygan has 4 banks, 3 daily papers, 4 weekly and 2 semi-weekly papers, nineteen churches, first class hotels, summer hotels, 2 parks and excellent educational facilities. The city has many advantages as a summer resort.

SHEBOYGAN FALLS.

Sheboygan Falls, Sheboygan Co. Population, 1,500. Situated on the Sheboygan River, C. & N. W. Ry. Electric line to Sheboygan, cars leaving every forty minutes. There is a telephone system and electric light plant. Western Union and Postal telegraph. American Express.

Sheboygan Falls is located on the Sheboygan River at a point where a series of rapids furnish an excellent water power of 35 ft. head in three dams. Manufacturers along the river are compelled to resort to stream power at certain periods of the year. In this city there are several large manufacturing plants. The largest woolen mill in the state

is located here. There are also large furniture factories, wagon shops, a tannery, lime kiln and a farm implement factory. Sand, clay, stone and timber can be obtained in large quantities. There are no unoccupied factories in the city at the present time. There are 3 banks, 3 hotels, 5 churches and a good public school system. There are probably more cheese factories in the region tributary to Sheboygan Falls than any other village in the state. Cheese, woolen goods, farm implements, lime and grain constitute the principal shipments. There are 2 physicians, 2 lawyers and 8 teachers.

WALDO.

Waldo, Sheboygan Co. Population, 300. 15 miles from Sheboygan and 5 miles from Plymouth. C. M. & St. P. Ry. No electric lines but route for one being surveyed. Stages daily to Cascade. Telephone connection. Western Union telegraph. United States Express.

There is a small water power at this place. Wood for fuel purposes is furnished in abundance by the surrounding country. Such raw materials as clay, sand, stone and timber are found in large quantities near the town. The surrounding country can be drawn upon for a considerable labor supply.

The surrounding country is a rich agricultural district practically all being under cultivation. Fruit and vegetables are furnished in large quantities. A canning or pickling factory is especially desired at this place. There is located at Waldo 1 grain elevator, a lumber yard, 2 cheese factories, and a general machine and wood-working shop. There is no bank. There are 2 small hotels and 2 boarding houses. A modern hotel is desired.

TAYLOR COUNTY.

Taylor county is located in the central part of the state. The area of this county is 965 square miles. It has a population of 12,481 a gain of 1,219 over 1900. Over one-third of the population is of foreign birth, of which number nearly 60% are Germans. In 1905 less than 108,000 acres had been occupied for farming purposes, of which only 26,524 acres are improved land. The soil of the county along the northern and western part is a

clay loam varying to lighter loams with a gently rolling surface. There are several stretches over which boulders are scattered but not enough to interfere permanently with cultivation. Very little of this soil has passed under cultivation but it is well adapted to the growth of grasses and clover. Stretching southward and covering the larger part of the county the loam becomes lighter and the surface is characterized by belts of ridges and billowy hills with basin-like depressions, swamps and small lakes. This area is generally stony but in some places boulders are entirely absent. Being rather coarse and porous this soil is better adapted to the growth of grain, corn and potatoes, but nevertheless maintains with ease a dairy and stock industry. Garden truck and small fruits can be grown with success. The southern and eastern part of the county is a loamy clay with a gently rolling and well drained surface. In only rare instances are the slopes too steep for cultivation. This soil is very productive and durable and gives promise of being equal to the best agricultural portions of the northwest. All crops do well. The whole county offers uniformly excellent agriculture soil, well adapted to dairying and stock raising and in the southern and eastern parts this has already become the chief source of farm income. Yet of the 965 square miles of area, scarcely one-sixth has been put to agricultural purposes. Taylor county is in the hardwood belt, having heavy growths of birch, basswood, elm, maple and oak, with spruce, cedar and tamarack in the swamps. The principal crops and their acreage in 1890 and 1905 are as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	14	3,0
Oats	839	3,625
Barley	9	511
Rye	96	409
Hay	6,684	12,169

There are 5 cheese factories and 7 creameries in the county. The price of cut-over lands vary from \$8 to \$12.50 per acre; where it has been improved, the prices range from \$25 to \$60 per acre. The county seat is Medford. The population of the local divisions in 1905 was as follows:



TAYLOR COUNTY APPLES.

TAYLOR COUNTY.

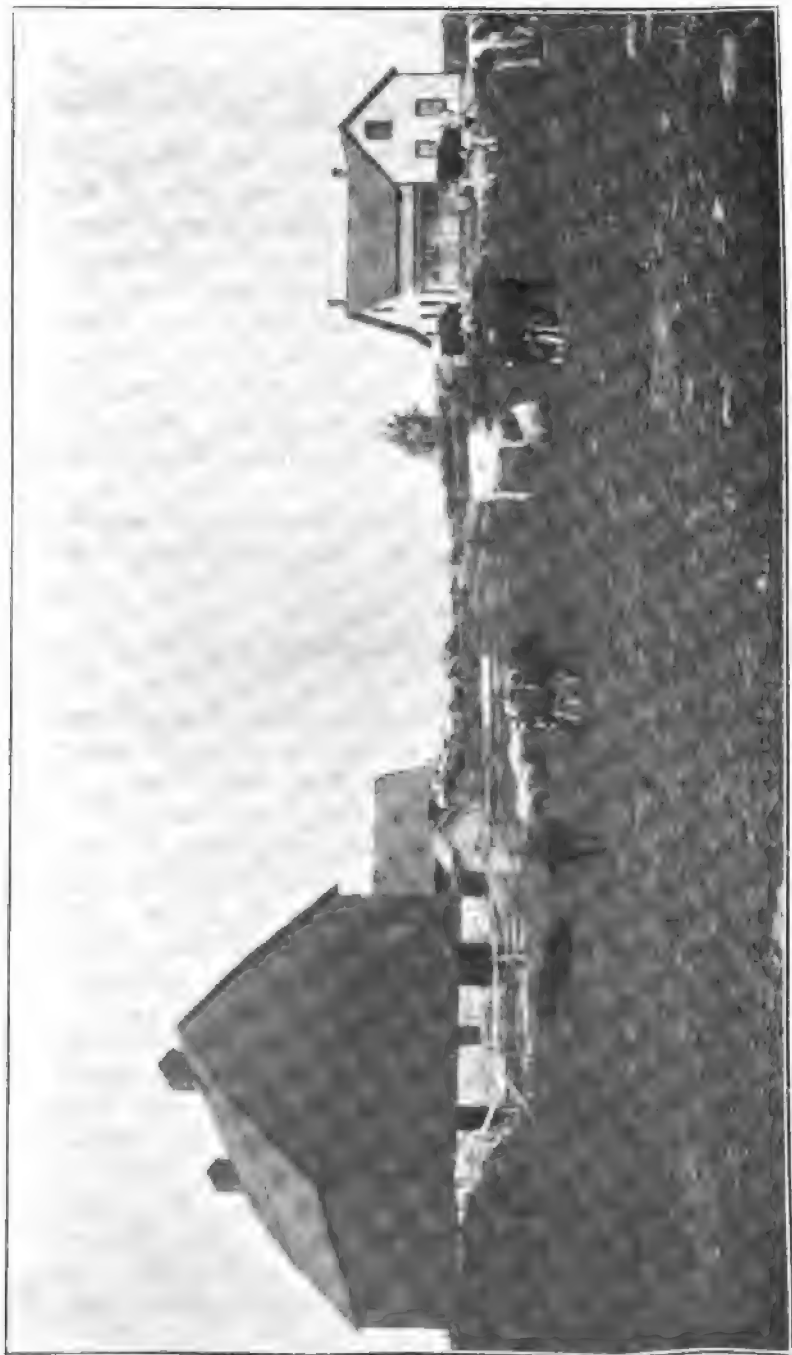
TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.				
		Male.	Female.	Total.	White.	Colored.	Indians.	Ex soldiers and sailors.	Militia.
Aurora.....	34	102	51	153	153	.....	.....	.....	27
Browning.....	90	253	218	471	471	.....	.....	1	100
Chelsea.....	141	377	341	718	718	.....	.....	3	129
Cleveland.....	17	110	31	141	141	.....	.....	.....	75
Deer Creek.....	181	486	414	900	900	.....	.....	.....	147
Goodrich.....	54	132	81	216	216	.....	.....	2	58
Greenwood.....	24	204	198	404	404	.....	.....	.....	65
Grover.....	45	95	89	184	184	.....	.....	.....	28
Hammel.....	75	183	152	335	331	4	.....	.....	59
Holway.....	61	172	140	312	312	.....	.....	.....	57
Little black.....	271	750	727	1,477	1,477	.....	.....	.....	294
Maplehurst.....	31	68	63	149	149	.....	.....	.....	31
McKinley.....	20	88	55	143	143	.....	.....	.....	41
Medford.....	284	777	687	1,464	1,456	8	.....	3	200
Medford, city:									
ward 1.....	139	334	356	690	684	6	.....	.....	.....
ward 2.....	110	247	267	514	514	.....	.....	.....	.....
ward 3.....	149	389	330	719	717	2	.....	.....	.....
Total, city.....1,923								15	352
Moller.....	36	89	61	150	150	.....	.....	2	24
Rib Lake.....	157	406	384	790	790	.....	.....	.....	124
Rib Lake, village.....	241	600	522	1,122	1,122	.....	.....	3	255
Roosevelt.....	49	159	116	275	275	.....	.....	1	40
Westboro.....	221	598	493	1,091	1,091	.....	.....	11	201
Total.....	2,538	6,702	5,779	12,481	12,481	20	.....	53	2,307

MEDFORD.

Medford, Taylor Co., is a city of 1,923, inhabitants: is located on the Wisconsin Central Ry., 316 miles from Chicago, 290 miles from Milwaukee and 25 miles from Marshfield. Has four passenger trains daily. Good facilities for receipt and shipment of freight. Telegraph and telephone. National Express.

The city is supplied with 2 banks, 3 drug stores, 10 groceries and confectioners, 3 hardwares, 4 general stores, a laundry, 3 shoe stores, machine and wagon shops, a brewery, electric light plant, lumber mill, a building supply company, a basket factory, 4 printing offices, a tannery, 7 hotels, a boarding house, 4 physicians attorneys at law, a high school employing 18 teachers, macadamized streets, cement walks, shade trees, 2 public parks, etc. Coal is shipped from Milwaukee and Chicago and wood is procured from the immediate locality. Such raw materials as small fruit, vegetables, clay, sand, timber and stone can be supplied, and plenty of help secured. Any kind of wood working establishment, a canning factory, brick yard and a flouring mill are best suited for the place.

The surrounding country is fast coming to the front as a dairy country. The soil is a first class clayey loam, comparatively free from stone, marshes and sandy spots. As yet only about one-third of the land suitable for farming purposes is improved.



A TAYLOR COUNTY FARM HOUSE.

RIB LAKE.

Rib Lake, Taylor Co., is an incorporated village. Population, 1,123. Located on the Wisconsin Central Ry., 15 miles from Medford, 331 miles from Chicago, 235 miles from Milwaukee and 40 miles from Marshfield. Good freight and passenger facilities. Telegraph and telephone. National Express.

The village is supplied with a bank, electric light plant, drug store, 6 groceries, a hardware, 2 saw mills, 3 dry goods stores, a tannery, furniture store, bakery, 3 hotels, 2 boarding houses, a graded school, public library, park, 3 physicians, and 1 lawyer. Wood for fuel is procured in the immediate locality. Such raw materials as vegetables, brick and tile clay, building stone, sand, hemlock and birch timber can be supplied. Plenty of help is to be had. This is a good location for a canning factory, brick yard, box or veneer factory, laundry, and wagon and hub factory. The village is located on a beautiful lake well supplied with fresh-water fish.

The soil of the surrounding country is a clayey loam and excellent for general farming purposes. The land is mostly level.

TREMPEALEAU COUNTY.

Trempealeau county is located in the western part of the state on the Mississippi river. It has an area of 734 square miles. In 1905 the county had a population of 23,857 which was a gain of 734 over 1900. About one-fourth of the population is of foreign birth, Norwegians being greatly in the majority. In 1890 the total farm area was 397,850 acres, of which 204,733 acres were improved. In 1905 the total farm area was 427,708 acres, of which only 242,082 acres were improved, showing an improved acreage of less than one-half of the area of the county. The valuation of these farms including improvements has grown rapidly, increasing from \$4,681,840 in 1890 to \$11,309,234 in 1905. The topography of the southern two-thirds of the county is a succession of high hills, ridges and valleys such as characterize that section of the state. The northern part of the county is within the glacial portion of the state and is covered with a thin mantle of drift. The hills and ridges of this part are not so steep nor so high and the intervening valleys are much wider. The soils covering the larger part of the county are sandy loams. This is a warm and easily worked soil and rather coarse in texture. This soil is well adapted to potato culture.

In the line of animal husbandry it is better suited to sheep and hogs than to dairying on an exclusive scale. In the valleys of the Black and Trempealeau rivers the soil is sandy and not very fertile. In the southern part of the county there is a large tract of prairie loam of exceptional native fertility. The leading crops and the acreage of each in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	14,740	10,483
Oats	45,726	77,675
Barley	1,314	6,592
Rye	4,390	3,973
Corn	24,193	18,714
Hay	52,816	54,845

In 1905 there were 3 cheese factories and 14 creameries in the county. There is very little unimproved land in the county which can be made very productive. Some small tracts of unimproved land such as can be had, range in prices from \$5 to \$20 per acre. The improved lands sell at from \$50 to \$75 per acre. Whitehall is the county seat. The following table shows the population statistics of the political division of the county in 1905:

TREMPEAULEAU COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPU- LATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Albion	158	444	381	825	825	.....	.....	4	149
E. Eva, village	77	180	151	331	331	.....	.....	8	62
Arcadia	502	1,498	1,231	2,732	2,732	.....	.....	12	522
Arcadia, village	285	633	683	1,316	1,314	*1	1	11	218
Burnside	173	449	456	905	905	.....	.....	1	135
Independence, village	137	335	328	663	663	.....	.....	3	111
Cal. donia	71	172	135	307	307	.....	.....	6	66
Chimney Rock	196	544	503	1,047	1,047	.....	.....	.....	163
Dodge	84	259	204	463	468	.....	.....	.....	91
Ettrick	413	1,195	1,010	2,205	2,205	.....	.....	11	417
Gale	246	764	684	1,448	1,418	.....	.....	.....	171
Galesville, village	214	426	450	876	876	.....	.....	18	.....
Hale	298	915	823	1,738	1,733	.....	.....	2	356
Lincoln	124	428	376	804	804	.....	.....	9	60
Whitehall, village	153	343	357	700	700	.....	.....	11	117
Pigeon	198	657	607	1,264	1,261	.....	.....	4	215
Preston	315	941	822	1,763	1,763	.....	.....	9	311
Blair, village	104	221	240	461	461	.....	.....	2	77
Sumner	141	394	352	746	746	.....	.....	6	155
Osseo, village	124	277	288	565	565	.....	.....	7	129
Trempealeau	215	586	518	1,104	1,104	.....	.....	11	215
Trempealeau, village	149	288	276	564	564	.....	.....	18	90
Unity	211	513	512	1,025	1,025	.....	.....	6	193
Total	4,588	12,462	11,305	23,857	23,855	1	1	166	4,485

*1 Chinaman.

ARCADIA.

Arcadia, Trempealeau Co. Population 1,375. An incorporated village located in the southwestern part of the county on the G. B. & W. Ry., and on the Trempealeau river, 15 miles southwest of Whitehall, the county seat, 22 miles from Winona, Minn., 47 miles from La Crosse, 125 miles from St. Paul and 245 miles from Milwaukee. Western Express. Telegraph and telephone. Good passenger service and shipping facilities.

The village has paved streets, one mile of cement sidewalks, municipal electric light plant and water works, a bank, 2 drug stores, 5 groceries, 2 hardware and 3 general stores, 1 laundry, 2 hotels, high and graded public schools employing 9 teachers, Catholic, German Lutheran, German Methodist, Methodist Episcopal and Unitarian churches, a public library, 3 physicians, 5 lawyers, 3 cigar factories, 2 harness shops, a stock food factory, a brewery, 2 flour mills, 2 brick yards, and 2 creameries. Three weekly newspapers are published.

There is a water power not yet utilized, estimated at 100-horse power. Wood is used for fuel. Fruit and vegetables can be furnished for canning. The village can be supplied with clay, sand, peat and hardwood timber. The timber is suitable for barrel staves, hoops, hubs, spokes, tool handles, etc. A good location for the above industries. Some help can be secured.

About 2-3 of the land surrounding the village, suitable for crop raising is improved. One-third of the land is rough but not stony, some swamps along the river and the remainder is level. All good farming land.

BLAIR.

Blair, Trempealeau Co. Population 461. An incorporated village located in the eastern part of the county on the G. B. & W. Ry., and on the Trempealeau river, 7 miles from Whitehall, the county seat, 43 miles from Winona, Minnesota, 68 miles from La Crosse, 67 miles from Eau Claire, 171 miles from Green Bay, and 245 miles from Milwaukee. Western Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is located on the bank of the Trempealeau river, has good streets, fine shade trees in the residence portion, is lighted by electricity, has a bank, 2 drug stores, 2 groceries, 3 hardware and 3 general stores, 2 millinery stores, 2 furniture stores, 2 hotels, a boarding house, graded public school employing 5 teachers, Baptist and Lutheran churches, 2 physicians, 2 restaurants, 2 jewelry stores, harness shop, 2 blacksmith shops, a wagon shop, a photographer, 1 flour mill, feed mill, 3 grain elevators, and a potato warehouse. A weekly newspaper is published. A first-class hotel is needed.

Of the water power here, there is about 50-horse power not utilized. Wood is used for fuel, obtained from the surrounding country.

Fruit and vegetables can be furnished for canning. The village can be supplied with clay, sand, timber and stone. A number of men, women, and young persons can be secured in the village to work in factories. There is one idle factory in the village, formerly a butter tub factory.

About 75 per cent of the land surrounding the village, suitable for crop raising, is improved. 50% of the country is level and free from stone, and about 25% is sandy. The soil produces a good quality of tobacco and a tobacco warehouse is needed.

GALESVILLE.

Galesville, Trempealeau Co. Population 876. An incorporated village located on a branch of the C. & N. W. Ry., in the southern part of the county, 25 miles south of Whitehall, the county seat, 19 miles from La Crosse, 154 miles from Madison and 225 miles from Milwaukee. American Express. Telegraph and telephone. Fairly good shipping facilities and passenger service.

The village has good streets, cement walks in business part, shade trees, 2 public parks, a small lake, a good supply of water, is lighted by electricity, has well equipped fire department, a bank, 2 drug stores, 5 groceries, 2 hardwares, 2 dry goods and 1 general store, 2 hotels, 3 boarding houses, high and graded public schools, 4 churches, a Norwegian Lutheran college, an opera house, a public library, 4 physicians, 3 lawyers, 2 machine shops, 3 blacksmith shops, planing mill and sash and door factory, woolen mill, flour mill, cigar factory, cement block manufactory and a creamery. Two weekly newspapers are published. A first-class hotel is needed. A good location for a laundry, starch, canning or pickle factory.

Fruit and vegetables can be furnished in sufficient quantities for canning. There is a good supply of brick, clay and sand in the vicinity. Help can be secured in the village. There is a water power here which is not all utilized. Wood and coal are used for fuel. Wood is plentiful in the vicinity.

The surrounding country is good for farming and about all of the land suitable for crop raising is improved. West of the village the soil is sandy but is quite productive.

INDEPENDENCE.

Independence, Trempealeau Co. Population 663. An incorporated village located on the G. B. & W. Ry. and on the Trempealeau river, 6 miles west of Whitehall, the county seat, 30 miles from Winona, Minn., 133 miles from St. Paul, 175 miles from Madison and 257 from Milwaukee. United States Express. Telegraph and telephone. Shipping facilities and passenger service good.

The village is supplied with an efficient and well-equipped fire department, an excellent system of water works owned by the village, electric light plant, a bank, drug store, 2 hardware and 4 general stores, furniture store, 2 hotels, 2 boarding houses, graded public school employing 8 teachers, Catholic, Methodist and Norwegian Lutheran churches, 2 physicians, 2 lawyers, a \$1,500 village hall, creamery, a flour mill, grain elevators, etc.

Two weekly newspapers are published. Stages tri-weekly to the surrounding towns. A first-class hotel is needed. This is a good location for a canning factory.

There is an undeveloped water power that can be utilized for manufacturing purposes. Wood is used for fuel. Fruit and vegetables can be furnished for canning. The village can be supplied with clay, sand, and timber. Help can be secured in the village.

The surrounding country is good for farming, is very nearly all improved. Wheat, barley, hay and livestock are the principal shipments.

OSSEO.

Osseo, Trempealeau Co. Population 565. An incorporated village located on the C., St. P. M. & O. Ry., in the extreme northeastern part of the county, 18 miles north of Whitehall, the county seat, 45 miles from Eau Claire, 143 miles from St. Paul, 167 miles from Madison and 252 miles from Milwaukee. American Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village has well-kept streets, good walks, public square, some shade trees, plenty of water, 2 banks, 1 drug store, 3 groceries, 2 hardware and 2 general stores, a shoe store, music store, 2 furniture stores, 3 hotels, 5 boarding houses, graded public school employing 4 teachers, Congregational and Norwegian Lutheran churches, 3 physicians, 2 lawyers, 2 millinery shops, 2 blacksmith shops, a wagon shop, 2 meat markets, cement block factory, 3 grain elevators, feed mill, flour mill, lumber dealer, and a monument shop. A weekly newspaper is published. A first class hotel is needed and there is a good hotel building here for sale at a bargain.

Wood is used for fuel, obtained from the surrounding country. Fruit and vegetables can be supplied for canning. Clay, sand, stone and gravel are the natural products. Plenty of help can be secured in the village and surrounding country.

This is a good farming section and about 75% of the land, suitable for crop raising is improved. Very little swampy or sandy land. Good location for a canning factory.

STRUM.

Strum, Trempealeau Co. An unincorporated village of about 250 inhabitants, located on the C., St. P., M. & O. Ry, in the northern part of the county, 18 miles north of Whitehall, the county seat, 23 miles from Fairchild and 55 miles from Eau Claire. American Express. Telegraph and telephone. Fair shipping facilities and passenger service.

Has a bank, drug store, 3 groceries, a harness shop, 2 hotels, a graded school of 2 rooms, and a physician.

Steam power will have to be used here. All kinds of vegetables can be supplied for canning, and clay and sand are the natural products. Help can be secured in the village.

The village is located in a good farming section and a large per cent of the land suitable for crop raising is improved. The soil is a clayey and sandy loam and is very productive.

TREMPEALEAU.

Trempealeau, Trempealeau Co. Population 564. An incorporated village located on the C. & N. W. and the C. B. & Q., and the G. B. & W. Rys., and on the Mississippi river, 20 miles northwest of La Crosse, 113 miles from St Paul, 147 miles from Madison and 225 miles from Milwaukee. Galesville 7 miles northeast is the nearest banking point. Adams and American Express. Telegraph and telephone. Extra good shipping facilities and passenger service.

The village has good streets, shade trees, 2 public parks, plenty of water, a drug store, groceries, 2 hardwares, 3 dry goods and 3 general stores, 1 hotel, 2 boarding houses, high school employing 5 teachers, Catholic, Congregational and Methodist churches, 1 physician, 1 lawyer, harness shop, flour and feed mill meat market, pickle salting station and 3 weekly newspapers.

Steam power is used. Coal and wood are the fuels. Fruit and vegetables can be supplied for canning. The natural products are clay, sand, timber and building stone. Stone is suitable for bases for monuments or range work. A limited amount of help can be secured in the village.

This is a good farming section and nearly all of the land suitable for crop raising is improved. The land along the river is rough, but the larger part is level and free from stone. About 25 per cent of the soil is sandy, and a small per cent swampy.

There is an opening here for a canning or other small manufacturing establishment, electric light plant, a bank and hotel. The village is a summer resort.

WHITEHALL.

Whitehall, Trempealeau Co. Population 700. The county seat of Trempealeau county, is located on the G. B. & W. Ry., and on the Trempealeau river, in the north-central part of the county, 36 miles from Winona, Minn., 61 miles from La Crosse, 75 miles from Eau Claire, 178 miles from Green Bay, and 250 miles from Milwaukee. American Express. Telegraph and telephone. Shipping facilities and passenger service good.

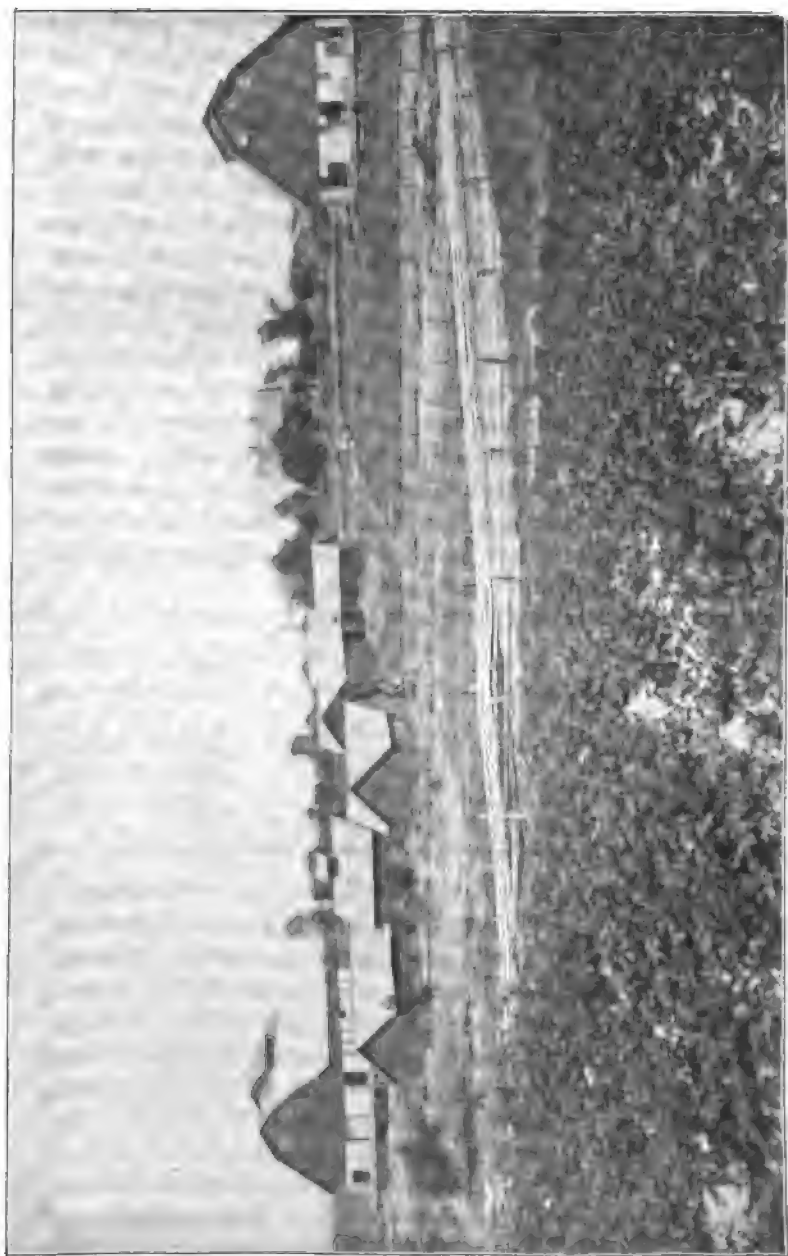
The village has a good system of water works, sewerage, electric light plant, a public library of 800 volumes, 2 public halls, a bank, a drug store, 3 groceries, 2 hardware and 2 general stores, 5 hotels, good public school system, 6 teachers employed, Baptist, Lutheran and Methodist churches, 3 physicians, 3 lawyers, a flour mill, tobacco warehouse and a creamery. A weekly newspaper is published.

This is a good location for a canning factory, cigar factory, small planing mill and a laundry. Wood is used for fuel, obtained from the surrounding country. A limited amount of help can be secured in the village.

Of the land surrounding the village suitable for crop raising about 75 per cent is improved. More than one-half of the land is hilly. The soil is fertile, no stone or swamps, but about 10 per cent sandy.

VERNON COUNTY.

Vernon county is located in the southwestern part of the state, on the Mississippi river. It had a population in 1905 of 29,161 which was an increase of 810 over the census of 1900. Nearly one-sixth of the population is foreign born, of which number Norwegians are by far the most numerous. The county has an area of 792 square miles, of which 471,283 acres or 92% of the total area has been occupied for farming. Not half of this acreage has been improved however, the total area of the improved farm lands in 1905 being 248,779. The total farm area and the amount of improved land in 1890 and 1900 was 448,520 acres and 223,877



A TYPICAL WISCONSIN FARM SCENE.

acres respectively. The valuation of the farm lands, including improvements, increased during these years from \$6,262,070 to \$14,015,048 or nearly 125%. The topography of the county is generally rough. In the western part, along the Mississippi river, the surface is especially rough, being a series of ridges and steep bluffs intersected by numerous deep valleys and ravines. In the central and eastern part the hills are not so high nor the slopes so steep, making the surface a succession of flat top ridges and valleys. The soils in this county are mainly light clayey and prairie loams, except along the Mississippi and tributary rivers where the soils are of a light sandy nature but very fertile. Owing to this fact, together with the very rough topography in these districts preventing cultivation, sheep raising has become a leading industry. Vernon county ranking first in the state in the number of sheep. Along the watersheds between the leading rivers the soil is an excellent quality of prairie loams and medium clayey loams well adapted to general farming and stock raising. The leading crops and the acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	22,837	6,700
Oats	46,949	56,372
Barley	4,467	6,888
Corn	28,711	26,025
Tobacco	338	5,519
Hay	42,816	63,150

There are 10 cheese factories, 8 creameries and 7 skimming stations in the county. The tobacco industry is of comparatively recent growth and its rapidly growing acreage means a substantial increase in agricultural earnings. During the last year a considerable acreage has been devoted to the raising of sugar beets. Owing to the topography of the county, the price of land varies widely. Along the rivers in the region of hills and ravines unimproved land ranges in price from \$10 to \$15 per acre. Improved farm lands average in price about \$50 per acre, but there are numerous tracts where the price is as high as \$100 per acre. Viroqua is the largest city and county seat. The population of the local political divisions in 1905 was as follows:

VERNON COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers ² and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Bergen	170	402	418	910	910	.....	.....	4	174
Stoddard, village	55	184	172	356	356	.....	.....	1	86
Christiana	260	714	677	1,391	1,340	.....	11	3	247
Westby, village	215	375	322	767	767	.....	.....	.....	155
Clinton	235	620	568	1,188	1,188	.....	.....	9	223
Coon	264	772	666	1,438	1,438	.....	.....	2	216
Forest	241	641	591	1,232	1,150	19	23	21	252
Franklin	264	698	591	1,289	1,289	.....	.....	9	296
Genoa	267	502	517	1,019	1,019	.....	.....	11	143
Greenwood	191	467	441	908	908	.....	.....	7	180
Hamburg	220	601	519	1,119	1,119	.....	.....	6	254
Harmony	187	561	479	1,040	1,040	.....	.....	8	173
Hillsboro	241	621	530	1,151	1,151	1	.....	17	237
Hillsboro, village	206	350	414	804	804	.....	.....	14	152
Jefferson	272	804	706	1,510	1,510	.....	.....	7	266
Kickapoo	202	488	48	896	896	.....	.....	13	178
Readstown, village	127	263	256	516	516	.....	.....	13	75
Liberty	160	260	230	490	490	.....	.....	10	93
Viola, village	64	117	128	245	245	.....	.....	14	42
Stark	198	449	430	879	879	.....	.....	15	173
La Farge, village	206	425	392	827	827	.....	.....	17	182
Sterling	234	679	532	1,171	1,171	.....	.....	11	213
Union	161	457	407	857	857	.....	.....	3	143
Viroqua	324	923	849	1,772	1,771	1	.....	16	314
Viroqua, city:									
ward 1	157	328	353	681	691	.....	.....	.....	.....
ward 2	156	260	348	608	606	2	.....	.....	.....
ward 3	193	353	380	733	733	.....	.....	.....	.....
Total, city, 2,032								48	347
Webster	243	623	531	1,154	1,154	.....	.....	13	173
Wheatland	145	356	311	667	637	.....	.....	8	97
De Soto, village	89	149	144	293	243	.....	.....	10	46
Whitestown	187	449	419	918	907	11	.....	14	186
Ontario, village	91	181	181	362	362	.....	.....	16	66
Total	6,135	15,228	13,633	29,161	29,053	74	34	34	5,417

² Chinamen.[†]Part in Crawford county.

HILLSBORO.

Hillsboro, Vernon Co. An incorporated village having a population of 804. Located on the H. & N. E. Ry., 5 miles from Union Center, 206 miles from Chicago, 129 miles from Milwaukee and 68 miles from La Crosse. Telegraph and telephone. American Express.

The village is supplied with 2 banks, drug stores, 4 groceries, a general store, 1 hardware, a brewery, handle factory, stave and saw mills, planing mill, a creamery, weekly newspaper, flouring mill, 5 physicians, 1 lawyer, a free library, a high school employing 8 teachers, hotel and boarding house. Wood for fuel is secured from the surrounding country. Such raw materials as fruit, vegetables, clay, sand, stone and timber can be supplied and 125 laborers engaged. A canning or woodwork-

ing establishment is best suited for the place and it would be a good location for an electric light plant.

Hillsboro is located in an excellent farming district, the soil being a clayey loam; the land somewhat rolling but most of it capable of being improved.

LA FARGE.

La Farge, Vernon Co., is an incorporated village having a population of 827; is located on the C. M. & St. P. Ry., 51 miles from Wauzeka, 213 miles from Milwaukee and 131 miles from Madison. Fairly good freight and passenger facilities. Telegraph and telephone. U. S. Express.

This place is provided with a bank, dry goods store, 3 groceries, 2 hardwares, 3 general stores, a shoe store, harness shop, 2 restaurants, 2 millinery stores, 2 lumber yards, 2 hotels 4 blacksmith shops, 1 photographer, a newspaper, 4 physicians, 1 dentist, 1 lawyer, a creamery, a grist mill, an arm and pin factory and a high school. Wood for fuel is obtained in the immediate locality. Such raw materials as fruit, vegetables, clay, stone, tobacco, timber and sand can be supplied and help secured. Oak and other hardwood lumber is annually shipped from here in large quantities to supply furniture and wood working factories of other cities. A water power can be developed. A woodenware factory, furniture factory or any other establishment using timber as the principal raw material, a canning factory, tobacco or cigar factory, tobacco warehouse or a knitting factory is best suited for the place. A business college is desired.

The village is located in the Kickapoo Valley which contains some of the most fertile land of the state. The soil is well adapted to tobacco raising, which is fast becoming the leading industry of the farmers. Stock raising and dairying are extensively carried on, the valley lands along the rivers and creeks and the side hills affording excellent pasturage.

ONTARIO.

Ontario, Vernon and Monroe counties, is an incorporated village with a population of 466; located 9 miles from Norwalk and Wilton, the nearest railroad stations on the C. & N. W. Ry. Telephone.

The village is supplied with 4 groceries, 6 general stores, 3 restaurants, feed mill, 2 meat markets, 2 barber shops, saw mill and lumber yard, a jewelry store, 3 blacksmith and repair shops, a physician, high school and 2 hotels.

A part of this village is in Monroe county. About a 300 horse water power can be developed here. A canning factory is best suited for the place. A flouring mill is idle. Such raw materials as fruit, vegetables, clay, sand and stone can be supplied.

This village is situated in the Kickapoo Valley. The valley land is very productive and the hillsides furnish excellent pasture for sheep and cows. The soil of the ridge lands is a clayey loam.

READSTOWN.

Readstown, Vernon Co., is an incorporated village of 518 inhabitants. Located on the C., M. & St. P. Ry., 38 miles from Wauzeka, 200 miles from Milwaukee, 118 miles from Madison. United States Express. Telephone. Freight and passenger facilities fairly good.

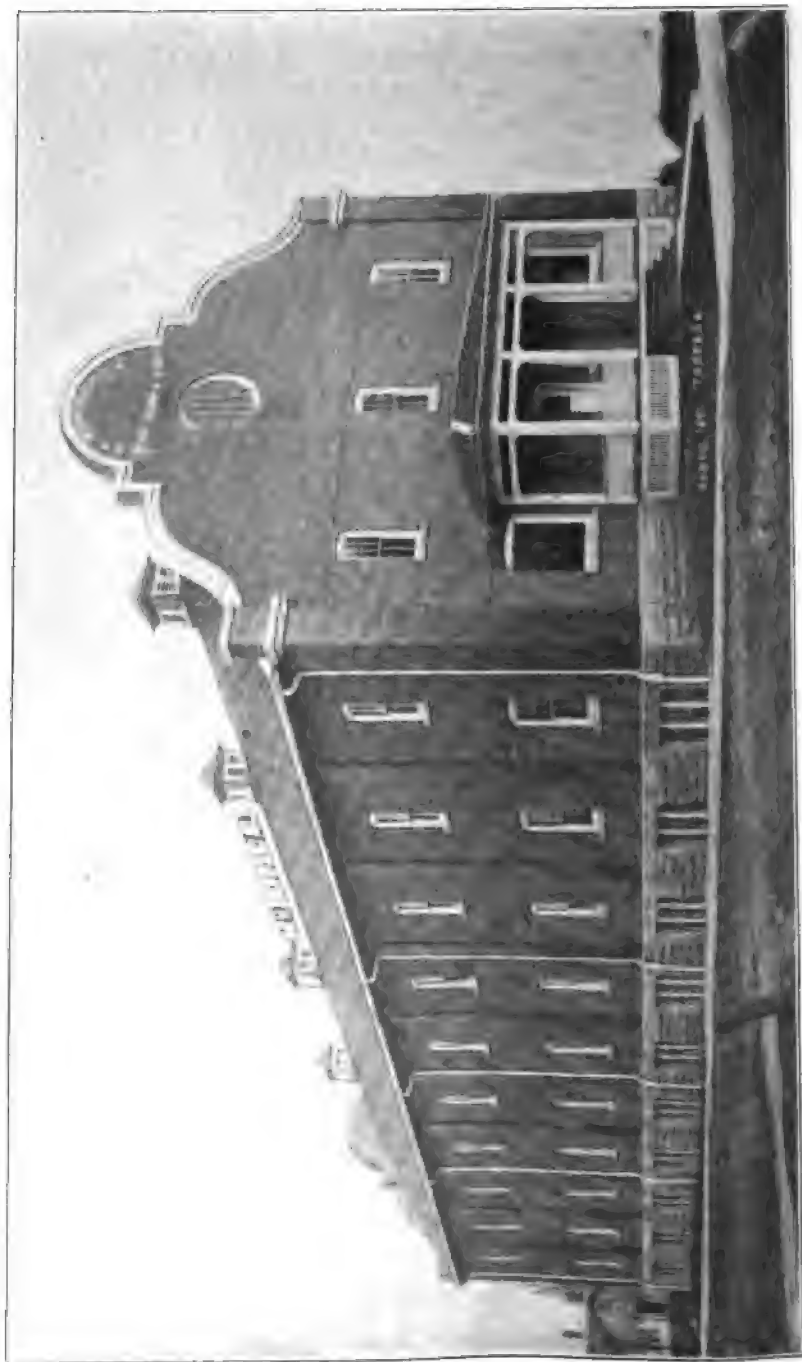
The town is supplied with an electric light plant, bank, drug store, 4 general stores, boot and shoe stores, 3 blacksmith and wagon shops, planing mill, photograph gallery, a tobacco warehouse, meat market, hardwares, 2 grain warehouses, a livery stable, 3 physicians, 1 lawyer, a public school, employing 4 teachers, and a public park. A sixty horse water power can be developed. Such raw materials as fruit, vegetables, sand, brick clay, stone and timber can be supplied and plenty of help secured. A creamery or pickle factory is best suited for the place.

This village is in the Kickapoo Valley in which are located some of the most fertile lands in Wisconsin. Tobacco raising is the leading industry of the farmers although stock raising and dairying are carried on quite extensively.

STODDARD.

Stoddard, Vernon Co., is an incorporated village having a population of 356. Located on the La. C. & S. E. Ry., and the C. B. & Q. R. R. 10 miles from La Crosse, 287 miles from Chicago and 208 miles from Milwaukee. Has first class freight and passenger facilities. Telephone and telegraph. Adams Express.

The village is supplied with a drug store, 2 groceries, a hardware, 2 dry goods stores, a planing mill, flour mill, a newspaper, 1 physician, 1 attorney-at-law, a graded school, 2 hotels and 3 boarding houses. A small undeveloped water power is located here. Coal is shipped from Illinois. Such raw materials as vegetables, fish, tobacco, clay, sand and timber can be supplied and plenty of help procured.



TOBACCO PACKING WAREHOUSE OF M. H. BEKKEDAL, VIRGO, LA.

This is one of the largest, finest and most costly houses of its kind in the United States. The interior is no less inviting and handsome than the exterior. For convenience and service, most modern appliances, this new house surpasses all others in Wisconsin. Two other structures of like character, fully as large, are located in the heart of the city, and together with this one, form a most extensive and valuable addition to the city of Virgo, which is

About two-thirds of the land suitable for farming purposes surrounding this village is improved, some of the soil is sandy, much of the land hilly and rolling.

VIROQUA.

Viroqua, Vernon Co., is a city of 2,082 inhabitants, located on the C. M. & St. P., and the L. & S. E. railroads. 85 miles from Sparta, 207 miles from Milwaukee and 48 miles from La Crosse. United States Express. Telephone and telegraph. Good freight and passenger facilities.

The city is supplied with an electric light plant, 2 banks, 3 drug stores, 7 groceries, 3 hardware stores, 3 furniture stores, 1 book store, 2 jewelry stores, 3 harness shops, 3 clothing stores, 5 dry-goods stores, 1 shoe store, 3 meat markets, 4 hotels, 2 livery stables, 1 music store, 3 newspapers, 7 physicians, 10 attorneys-at-law, a high school employing 15 teachers, boarding houses, plenty of shade trees, and a public library. Wood and coal are used for fuel, wood being procured from the surrounding country and coal from Milwaukee and the mines of Illinois, Ohio and Pennsylvania. Some inducements may be offered for suitable factory. Such raw materials as fruit, vegetables, sugar beets, clay, sand, stone and timber can be supplied, and 400 laborers secured in this locality. A canning or beet sugar factory is best suited for the place.

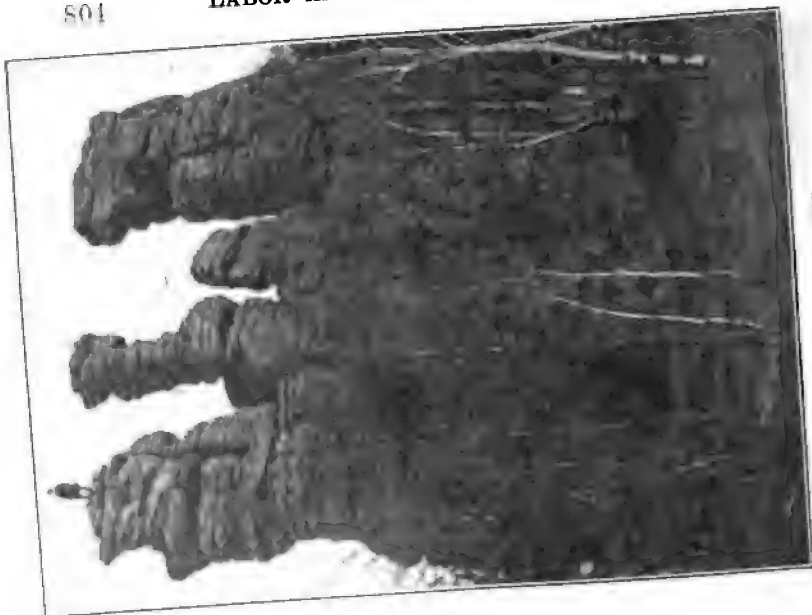
What is said to be the largest tobacco warehouse in the U. S. has recently been completed here.

The land in this section of the state is among the best. Tobacco culture and dairying are the leading occupations of the farmers. The culture of sugar beets is also becoming a leading industry.

WESTBY.

Westby, Vernon Co., is an incorporated village having a population of 767. Located on the C. M. & St. P. and the L. & S. E. Rys. 29 miles from Sparta, 201 miles from Milwaukee and 36 miles from La Crosse. United States Express. Telephone and telegraph. Good passenger and freight facilities.

The village is supplied with an electric light plant, bank, 2 drug stores, 4 groceries, 3 hardware stores, 1 department store, 4 general stores, hotel and boarding house, a graded school, 2 physicians and 1 attorney-at-law. Coal and wood are used as fuel, wood being secured from the surrounding country, and coal from Milwaukee, Illinois, Ohio and Pennsylvania. Such raw materials as fruit, vegetables, tobacco, clay and timber can be supplied. There is a good opening here for a cigar factory; also

**THREE CHIMNEYS.**

These singular and attractive formations stand in an unobstructed view in an open field, with no other rock formations in the vicinity, five miles northwest of Viroqua, Wisconsin. There are three columns nearly distinct in themselves, quite 100 feet high.

**MONUMENT ROCK.**

One of the remarkable rock formations in the United States. This freak of nature is located seven miles southwest of Viroqua, Wisconsin. It stands on a foundation of granite, is three feet square, extends heavenward sixty feet, and at its most extended point is twenty feet across.

a feed mill and a laundry. Four hundred laborers can be engaged.

The land of the surrounding country is as good as there is anywhere in Wisconsin. Tobacco culture and dairying are the leading occupations of the farmers. The soil is a clayey loam and well adapted for any kind of farming.

VILAS COUNTY.

Vilas County is located in the northern part of the state on the Michigan-Wisconsin boundary line. It has an area of 907 square miles. The population in 1905 was only 5,436 which was a gain of 507 over the census of 1900. Nearly one-third of the population is of foreign birth made up largely of Canadians, Germans and Norwegians. Lumbering is the principal industry of the county, nearly the entire population being dependent upon it for support. Agriculture is practically unknown, there being only 2,464 acres of improved farm lands in the whole county in 1905. There is an immense amount of cut over land which, at the low prices prevailing there, offer an excellent opportunity for large numbers of settlers. The surface of the county is underlaid with heavy deposits of glacial drift. The county is dotted with hundreds of small lakes and innumerable small swamps or marshes. With the exception of occasional irregular areas of humus soils, the county is covered with sandy loams. There is considerable land in this county, the fertility of which is not very high. It is generally stony, but not to such an extent as to interfere with cultivation. Where the pine and other forest growth has been removed, the light sandy soils support but a meager vegetation, in most instances bunch grass. From general experience, it is safe to assume that such tracts may be brought into fertile conditions by having sheep herded on them, and the cheapness of such lands affords sufficient inducement for their being put to such use. The total farm area in 1905 was 13,680 acres, the value of which, including improvements, was \$175,550. The chief products of the farms are hay and oats, but a small acreage is being devoted to barley and corn. The range of prices for cut-over and unimproved lands is from \$4 to \$8 per

acre. For lands which have been improved and cultivated, the range of prices is from \$30 to \$50 per acre. A large portion of the western part of the county is occupied by the Lac du Flambeau Indian Reservation. The county seat is Eagle River. The following table shows the population statistics of the local political divisions in 1905:

VILAS COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Arbor Vitae	272	1,459	604	2,064	2,047	6	1	2	503
Eagle River	337	853	546	1,399	1,398	1	.....	13	423
Flambeau	99	529	202	731	731	.....	.....	.....	374
Flambeau Indian Res...	202	316	345	661	.....	.....	661	.....	95
Hackley	94	406	186	591	556	1	34	1	218
Total	1,004	3,554	1,832	5,426	4,732	8	626	16	1,613

EAGLE RIVER.

Eagle River, Vilas Co. Population, 1,399. 20 miles from Rhinelander, 306 miles from Milwaukee and 270 miles from Madison. C. & N. W. Ry. Water-works, electric light and telephone system. Western Union telegraph. American Express.

Eagle River is located on a chain of lakes near the head waters of the Wisconsin river. One of the finest undeveloped water powers in the state is located here. Efforts are now being made to develop this power so as to produce 12,000 horsepower, and power will be furnished at very low rates or will be given free of charge as an inducement to secure the location of factories. Aside from timber, there are no raw materials. A labor supply can be readily obtained from the surrounding country or neighboring cities. A woodworking plant or paper and pulp mill would find this city a most convenient location owing to its proximity to the forests. There are no factories here at the present time. There are located at Eagle River 1 bank, 1 drug store, several grocery stores, and dry goods stores, 3 churches and 2 newspapers. There are 2 physicians and 5 lawyers. The surrounding country is being occupied for farming.

Eagle River is a very popular summer resort there being a large number of cottages and small hotels on the lakes near

the city. Several thousand tourists and pleasure seekers visit this city annually. There are at present four hotels and three boarding houses.



THE EAGLE WATERS.

HACKLEY.

Hackley, Vilas Co. Population, 400. 17 miles from Eagle River. Electric light. Telephone and telegraph. American Express.

There are located here at the present time, a saw mill and planing mill, cooperage plant and chemical plant for the manufacture of wood alcohol and charcoal. Hackley has no bank, Eagle River being the nearest banking point. There is one physician but no drug store. The retail business is conducted almost entirely through one general store.

Hackley is located on the banks of Twin Lake. There is considerable clay obtainable from the surrounding country, which together with timber are the only raw materials. About 500 working men could be secured from the neighboring towns and villages. Factories manufacturing timber products are best suited for this place.

Hackley is an excellent summer resort and is visited annually by a large number of summer visitors. There is one hotel and one boarding house; but accommodations are not sufficient for the increasing number of tourists. A new hotel is greatly needed here.

STAR LAKE.

Star Lake, Vilas Co. Population, 500. 25 miles from Eagle River and 20 miles from Minocqua. C. M. & St. P. Ry. Western Union telegraph. United States Express.

The surrounding country is as yet very thinly settled and the agricultural product is very light. Timber and sand are the only raw materials obtainable in large quantities. There are no factories here at present. A bank is greatly needed; Minocqua being the nearest bank point. There are about fifteen lakes of different sizes within a radius of a few miles from town, which is itself situated on the shores of a small lake. There is one hotel with accommodations for 150, which is adequate for the present.

WALWORTH COUNTY.

Walworth county is located in the southeastern part of the state on the Illinois line. It has an area of 562 square miles. The population in 1905 was 30,491, a gain of 1,298 over the census of 1900. Only a small proportion of the population, less than one-sixth, is of foreign birth and of this number nearly one-half are Germans. Walworth county is one of the oldest counties in the state and has practically no unimproved land except small tracts owned in connection with improved farms. The total farm acreage in 1905 was 325,208 acres. The value of the farms including improvements has increased from \$15,969,720 in 1890 to \$19,982,104. The surface of most of the county is rolling and somewhat hilly. The soils are nearly all of an excellent quality and well adapted to all kinds of farming. The light clayey loam soils predominate, but there are many irregular tracts of prairie loams scattered throughout the county. Irregular areas of humus soils, composed mainly of muck and peat are found in the different parts of the county. There are also many small lakes. The leading farm crops and the acreage devoted to each in 1890 and 1905 were approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	25,632	39,229
Barley	25,966	18,124
Rye	10,706	2,356
Corn	39,853	57,044
Hay	60,035	48,994

Walworth county possesses a large and growing dairy and stock raising industry. It is located in Wisconsin's richest dairying district. There is very little cheese manufactured, the dairy industry being largely centered in the manufacture of butter, there being 48 creameries and 2 skimming stations in the county. Truck farming is also an important source of income. Unimproved land ranges in prices from \$40 to \$65 per acre and is used almost exclusively for pasturing. Improved farms range from \$80 to \$115 per acre, but transfers for as high as \$125 per acre are not uncommon. Elkhorn is the county seat. The population of the local political divisions for 1905 is shown by the table on page 808.

DARIEN.

Darien, Walworth Co. Population, 500. 9 miles from Elkhorn. C. M. & St. P. Ry. There are no electric lines at present but a route for one has been surveyed. Telephone and telegraph. United States Express.

Darien is at present dependent entirely upon the farming country surrounding it. Sand and gravel are the principal raw materials. Butter, cheese, oats, hay and barley are shipped from this place. There are two large elevators here. A canning factory and a cement works are especially desired. There is one hotel with accommodations for twenty persons. Another hotel is needed.

DELAVAN.

Delavan, Walworth Co. Population, 2,321. 6 miles from Elkhorn, 62 miles from Milwaukee. C. M. & St. P. Ry. There are no electric railways but one has been surveyed. Water-works. Electric light plant. Telephone and telegraph. United States Express.

Delavan is not a factory city. Its chief prominence is as a summer resort. Delavan Lake, located two miles away, is a popular summer resort and offers unsurpassed facilities for boating, bathing and fishing. There are many cottages along the lake shore. There are ample hotel accommodations for the present. A chautauqua assembly holds a meeting at the lake each summer. The Wisconsin School for the Deaf is located at this city. There are eight physicians and 8 lawyers at this place. Delavan is surrounded by a very rich agricultural and dairy country. Sand, clay and stone can be obtained in large quantities.

WALWORTH COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Bloomfield	153	466	390	856	856	.....	.....	3	209
Genoa Junction, vil...	180	374	336	710	710	.....	.....	12	147
Darien	321	631	603	1,234	1,221	13	.....	19	253
Delavan	234	565	444	949	946	3	.....	10	167
Delavan, city:									
ward 1.....	164	361	397	757	743	14	.....	.....	.....
ward 2.....	197	345	402	747	744	3	.....	.....	.....
ward 3.....	240	357	460	817	800	17	.....	.....	.....
Total, city...2,321								57	367
East Troy	196	495	451	946	946	.....	.....	14	141
East Troy, village....	176	273	328	601	601	.....	.....	17	97
Elkhorn, city:									
ward 1.....	146	270	320	590	590	.....	.....	7	85
ward 2.....	304	802	834	636	636	.....	.....	12	85
ward 3.....	463	272	320	592	592	.....	.....	11	75
Total, city...1,818									
Geneva	204	618	510	1,128	1,128	.....	.....	6	237
Lafayette	210	535	432	967	966	1	.....	9	238
La Grange	193	434	387	821	821	.....	.....	8	164
Lake Geneva, city:									
ward 1.....	282	519	586	1,105	1,104	1	.....	.....	.....
ward 2.....	195	462	563	1,025	1,024	1	.....	.....	.....
ward 3.....	303	682	667	1,349	1,318	31	.....	.....	.....
Total, city...3,449								43	702
Linn	225	762	558	1,320	1,348	2	.....	.....	.....
Lyons	290	690	614	1,304	1,304	.....	.....	16	237
Richmond	160	410	318	728	721	4	.....	3	150
Sharon	275	565	499	1,064	1,064	.....	.....	8	241
Sharon, village	287	418	511	929	924	5	.....	25	139
Spring Prairie	227	554	481	1,035	1,034	1	.....	9	244
Sugar Creek	221	498	434	932	932	.....	.....	17	215
Troy	224	544	461	1,004	1,004	.....	.....	12	201
Walworth	450	975	922	1,897	1,897	.....	.....	27	402
Walworth, village	173	328	319	647	647	.....	.....	11	123
Whitewater	164	416	343	759	759	.....	.....	.....	172
Whitewater, city:									
ward 1.....	251	407	460	867	867	.....	.....	.....	.....
ward 2.....	372	559	771	1,330	1,200	.....	.....	.....	.....
ward 3.....	282	406	535	941	941	.....	.....	.....	.....
Total, city...3,108								52	287
Total	7,767	15,382	15,175	30,557	30,491	66	.....	405	5,781

*1 Chinaman.

EAST TROY.

East Troy, Walworth Co. Population, 601. 12 miles from Elkhorn. $4\frac{1}{2}$ miles from Troy Center, the nearest shipping point on the C. M. & St. P. Ry. Stage twice daily to Troy Center and Lake Beulah. Telephone system. Gasoline are lights. Lake Beulah is $4\frac{1}{2}$ distant on the Wis. Central Ry.

There are located here 1 bank, 2 drug stores, the usual number of retail stores, flouring mill, planing mill, cigar factory, and a creamery. There is a water power which is not yet utilized.

East Troy occupies an important position as a summer resort. It has 5 hotels with accommodations for about 800 people which are ample for the present. East Troy is located

on three picturesque lakes. Three other lakes are within a short distance. There are many summer cottages along the shores of these lakes which are visited by about 2,000 people each summer.

ELKHORN.

Elkhorn, Walworth Co. Population, 1,818. 41 miles from Racine, 54 miles from Milwaukee and 69 miles from Madison. C., M. & St. P. R. R. United States Express. Telephone and telegraph.

This city has an electric light plant, 2 banks, the usual number of general stores, 2 newspapers, 6 churches, a public library, an opera house, excellent public school buildings and a large cheese factory is being built this year. There are 5 physicians and 4 lawyers. There are 2 hotels with accommodations for about 100 persons which is ample for the present. Elkhorn is not at present a prominent summer resort but has many advantages along this line, is not a manufacturing city but could be made one. Coal is the principal fuel. Sand and a good quality of clay can be furnished in abundance. Almost any small factory would find this a convenient location. The surrounding country could be drawn upon for several hundred laborers.

FONTANA.

Fontana, Walworth Co. Population, 850. 11 miles from Elkhorn, 4 miles from Williams Bay. C. & N. W., and C. M. & St. P. Rys. It is connected with Harvard, Ill., 10½ to the south, by electric railway which carries both passenger and freight. Telephone and telegraph. American and United States Express.

In Fontana there are several excellent locations for factories admitting shipping facilities over two railroads. There are two small water powers at this place not utilized at present but which some small factory could easily develop. Sand, gravel and crushed stone can be furnished in large quantities. Fontana is located in the midst of a rich farming and dairying community. Fruit, vegetables and milk can be furnished in large quantities. A canning or pickling factory and a milk condensing plant are desired here. Fontana is a popular summer resort being located at the head of Lake Geneva. There are four hotels and several boarding houses with accommodations for about one thousand persons. Another hotel is needed.

GENOA JUNCTION.

Genoa Junction, Walworth Co. Population, 710. 20 miles from Elkhorn, $2\frac{1}{4}$ miles from Richmond. Located at the junction of two divisions of the C. M. & St. P. R. R. Electric light plant. Telephone system. Western Union telegraph. American Express.

Sand, peat and gravel can be obtained in abundance. Genoa Junction is at present dependent almost entirely upon the surrounding agricultural district which is the center of an important dairying industry and the shipping point for large quantities of farm products. There is located here a milk condensing plant. A sterilized milk concern was operated for some time, but failed owing to lack of capital. There are 2 banks, 1 grocery store, several retail stores, 3 physicians and 1 weekly newspaper. There are 2 hotels and 2 boarding houses, but the accommodations are not adequate. Genoa Junction is not at present a summer resort but has many advantages in this direction, and offers excellent shipping facilities for any industries locating here. Sand, peat and gravel can be obtained in abundance. Vegetables and fruits could be furnished in large quantities for a canning or pickling factory.

LAKE GENEVA.

Lake Geneva, Walworth Co. Population, 3,449. 10 miles from Elkhorn, 53 miles from Milwaukee and 70 miles from Chicago. C. & N. W., and C. H. & L. G. Rys. Stages to Springfield three and one-third miles distance to meet C. M. & St. P. Ry. trains; fare 50 cts. Electric light plant. Telephone and telegraph. American Express.

The lake offers an excellent water power at this place. Clay, sand and stone are the principal raw materials. There are located here at present 2 banks, 2 drug stores, the usual number of retail stores, and several lumber, cement and coal yards. There are 7 churches and 2 weekly newspapers, several physicians and 6 lawyers. Twenty-nine teachers are employed in the public schools. Lake Geneva has a national reputation as one of the most beautiful summer resorts in the country. The shores of the lake which bears the same name as the city are dotted with many magnificent summer homes and villas erected by Chicago and St. Louis families. Several large steamers and a fleet of small boats are in constant readiness to meet parties and take them to the different parts of the lake. There are at present 3 hotels and 7 boarding houses, but accommodations are entirely inadequate for handling the large summer trade. Excellent inducements will be offered to secure the location of a large summer hotel.

LYONS.

Lyons, Walworth Co. Population, 500. 10 miles from Elkhorn and 5 miles from Burlington, the nearest banking point. C. M. & St. P. Ry. No electric railway but a route for one has been surveyed. Telephone system. Western Union telegraph. United States Express.

Lyons is located on a water power stream where about 150 horse power could be developed for some factory. There are no factories here at the present time. The surrounding country can be drawn upon for a labor supply. A bank is greatly needed. Lyons is dependent almost entirely upon the agricultural regions surrounding it. Seventy per cent of the land is under cultivation. Clay, peat and stone are the principal raw materials, and large quantities of fruit and vegetables are being raised. A canning factory would find this a convenient location. There is 1 small hotel which furnishes ample accommodations.

SHARON.

Sharon, Walworth Co. Population, 929. 18 miles from Elkhorn, 17 miles from Janesville. C. & N. W. Ry. Telephone and telegraph. Gas plant. American Express.

Sharon is the center of a rich agricultural community which has resulted in its being an important shipping place for live stock, grain, butter and produce. There are located here at present 1 bank, 2 drug stores, several grocery and dry goods stores, feed mill, planing mill and creamery. There are 6 churches, 6 physicians and no lawyers. There are no factories here at present but the village desires to secure the location of a pickling factory and a milk condensing plant. Labor can be readily obtained from the surrounding country and coal is the principal fuel. Two hotels furnish ample accommodations.

SPRINGFIELD.

Springfield, Walworth Co. Population 250. 8 miles from Elkhorn, 4½ miles from Lake Geneva, the nearest banking point. C., M. & St. P. Ry. Stages daily to Spring Prairie, Bowers and Lake Geneva. Telephone and telegraph. United States Express.

Springfield is dependent entirely upon the surrounding country, being the market for a large quantity of farm products. There is no water power. Coal is the principal fuel which is received from Chicago and Milwaukee. Sand, and an excellent quality of clay could be obtained near the city. A brick and tile industry was formerly located at this place,

but was a failure owing to insufficient capital. Large quantities of fruit and vegetables could be furnished for a canning or pickling factory if located here.

WALWORTH.

Walworth, Walworth Co. Population, 650. 12 miles from Elkhorn, 70 miles from Chicago. C. M. & St. P. Ry. and C. H. & Lake Geneva Electric Ry., which connects with C. & N. W. line eight miles from this place. Telephone and telegraph. Electric light plant. United States Express.

Walworth is at present dependent almost entirely upon the agricultural community, the surrounding country being one of the richest farming communities in the state. There are located here 1 bank, 2 drug stores, the usual number of retail stores, a feed mill, milk condenser, elevator, 1 weekly newspaper, a creamery and hardware factory. There are 2 physicians and 1 lawyer. Eight teachers are employed in the public schools. There are no unoccupied factories in this city at the present time. A bank, lumber yard, planing mill and canning factory are especially desired. Clay, sand and stone can be obtained in abundance. About 500 persons could be secured from the neighboring country to work in factories.

Walworth is becoming a popular summer resort. It is located within two and one-half miles from Lake Geneva with which place it is connected by electric line. There are two hotels with accommodations for about 100 persons.

WHITEWATER.

Whitewater, Walworth Co. Population, 3,108. 32 miles from Elkhorn, 51 miles from Milwaukee, 45 miles from Madison and 133 miles from Chicago. C. M. & St. P. Ry. Telephone and telegraph. United States Express.

There are located here 2 banks, the usual number of stores, 2 printing offices, 2 creameries, a tannery, 3 machine shops, flouring mill, an electric light plant, waterworks system, 10 physicians, 7 lawyers, a dairy supply company, cheese box factory and a plant for the manufacture of fountain pens. There is a water power at this place which is not fully utilized but no unoccupied factories. A good quality of clay, sand, peat, limestone and hardwood timber can be obtained from the surrounding country. A canning or pickling factory is especially desired here owing to the large quantities of vegetables raised in the vicinity. Whitewater is located in the midst of an extensive cheese

and butter manufacturing district which has resulted in its being a shipping point for immense quantities of butter, cheese and eggs.

Whitewater is an important educational center. It is the seat of one of the state normal schools. This city is not a summer resort.

WILLIAMS BAY.

Williams Bay, Walworth Co. Population, 600. 6 miles from Elkhorn, 6 miles from Lake Geneva, the nearest banking point. C. & N. W. Ry. There is an electric line within $3\frac{1}{2}$ miles of the village. Telephone and telegraph. American Express.

Williams Bay is located on the north shore of Lake Geneva occupying one of the most beautiful locations on the lake. Labor could be secured to work in factories. This place is especially important as a summer resort. It is visited annually by several thousand people. The largest observatory in the United States, Yerkes Observatory, owned by the University of Chicago, is located here. A bank, hardware store or drug store is desired here.

WASHBURN COUNTY.

Washburn county is located in the northwestern part of the state. The area is 834 square miles. The population in 1905 was 7,483, a gain of 1,962 over 1900. Nearly one-fifth of the population is of foreign birth, the leading nationalities represented being Swedes, Germans and Canadians. Like most of the northern counties Washburn county offers large tracts of land to the settler. Extensive areas which would support a large population and extensive industries, lie untouched. Out of a total area of 533,760 acres, only 122,488 acres had been occupied for agricultural purposes, and of this acreage but 23,138 are improved. This improvement is practically the work of the last decade, for in 1890 there were only 42 farms in the entire county, with an area of 6,315 acres, valued at \$52,000. In 1905 the value of the farms and improvements was \$1,752,238. The surface of the county is broken and hilly. It is traversed by three distinct series of irregular ridges and hills of boulder

clay, gravel and sand. The soil in the central, western and north-western part is sandy and very coarse and open in texture. Some sections can never be made very productive except under methods of irrigation and intensive farming. Not all the soil, however, is equally light, there being many tracts where one type shades into the other, making a loamy sand, whose warmth and ease of cultivation largely counteracts its lack of endurance. These light sandy soils are not materially adapted to either grass or grain and only by irrigating can they be made productive along dairy lines. The soils in the northeastern and southern part of the county are clayey loams of the lighter varieties. The surface is more or less rolling but seldom are the hills so steep as to interfere with cultivation. While the land is in places stony, making its improvement somewhat laborious, wherever it has been cleared, good crops of grain, grasses and corn have been produced. Where the clayey loam borders on the sandy soil potatoes can be grown with excellent results. The principal farm products in 1905 were oats, corn and hay. Land can be had at very reasonable prices. Unimproved lands range in price from \$4 to \$15 per acre, according to quality of soil and location. Improved farm lands range from \$16 to \$50 per acre, and in some cases the best improved farms have sold for as high as \$80 per acre. Shell Lake is the county seat. The population of the cities, villages and towns of the county in 1905 is given in the table on opposite page.

BIRCHWOOD.

Birchwood, Washburn Co. Population, 500. 40 miles from Shell Lake and 16 miles from Rice Lake, the nearest banking point. C., M., St. P. & O. and "Soo" Rys. Telephone and telegraph. American and Western Express.

Birchwood is located on a water power stream at a place where about 200-horse power could be developed. There are located here 1 physician, 1 drug store, 1 newspaper, several retail stores, a saw mill and a large veneer and seating plant. A paper or pulp mill or factories manufacturing timber products are especially desired here. A bank is also desired. There are no unoccupied factory buildings. The surrounding country is a good timber and agricultural district, but not over eight per cent has

as yet been improved for farming purposes. Vegetables are grown in small quantities. Birchwood is located in the midst of a group of lakes and has many advantages as a summer resort.

WASHBURN COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Barronette	70	192	163	355	355	.....	.....	.....	55
Bashaw	133	343	303	646	640	.....	6	11	57
Brooklyn	40	103	94	197	197	.....	.....	.....	34
Casey	83	225	177	402	402	.....	.....	3	64
Chicog	39	79	64	143	141	2	.....	2	27
Frog Creek	21	59	58	117	117	.....	.....	1	20
Gull Lake	26	67	43	110	115	.....	.....	3	16
Long Lake	59	162	125	287	287	.....	.....	.....	63
Loomis	94	226	195	431	426	.....	5	2	103
Mills	98	242	170	412	412	.....	.....	5	80
Minong	74	165	148	313	313	.....	.....	4	60
Nancy	38	75	58	133	163	.....	.....	3	23
Sorona	54	142	135	277	277	.....	.....	.....	52
Shell Lake	251	574	563	1,137	1,106	4	28	21	156
Spooner	110	293	241	534	534	.....	25	7	82
Spooner, village	242	626	544	1,170	1,169	.....	1	13	273
Spring Brook	106	222	186	408	401	.....	7	5	74
Stinnett	71	198	178	376	376	.....	.....	2	81
Total	1,614	4,033	3,480	7,433	7,405	6	72	86	1,390

SHELL LAKE.

Shell Lake, Washburn Co. Population, 1,000. County seat. 103 miles from Minneapolis and 273 miles from Milwaukee. C., St. P., M. & O. Ry. Telephone and telegraph. American Express.

Shell Lake is located on a water power stream, near a group of lakes which serve as an excellent reservoir and permit of the development of an extensive water power. The city has an electric light plant and waterworks system. There are located here 2 physicians, 4 lawyers, 1 bank, 1 drug store, several retail and general stores, 1 flour mill, 1 boat factory, 1 creamery and 2 planing mills. There are no unoccupied factory buildings. Shell Lake offers an excellent location for a starch factory, sash and door factory, and a brick and tile factory. Clay, sand and timber are the leading raw materials. A sufficient labor supply can be easily obtained from the neighboring country. This place is surrounded by a very heavy timber country and is also developing as an agricultural community. About 30 per cent

of the land has been cleared for farming purposes. Vegetables and fruits are being raised extensively.

Being located on the banks of a large lake and within a few miles of several more lakes, this city is well located for development of the summer resort business. There are 2 hotels and 2 boarding houses, but another hotel is needed.

SPOONER.

Spooner, Washburn Co. Population, 1,170. 7 miles from Shell Lake, C., M., St. P. & O. Ry. Waterworks system. Western Union telegraph. American Express.

Spooner is located on a water power stream at which point a large dam has just been constructed. Sand, stone and timber are the leading raw materials. There are no manufacturing plants here at present, but this city has excellent railroad facilities, there being 3 branches of the Omaha Railroad radiating from this point, thus making it a desirable location for the manufacturing of timber products. A labor supply can easily be obtained from the neighboring country. There are 2 banks, 2 drug stores, several general stores, a weekly newspaper, 3 physicians, 2 lawyers, and 5 churches in this city. There are also located here 1 hotel and 2 boarding houses furnishing accommodations for about 150 persons.

The country surrounding Spooner is well adapted for agricultural purposes. Very little land has as yet been cleared for the raising of crops. This city has many advantages as a summer resort.

WASHINGTON COUNTY.

Washington county is located in the southeastern part of the state. It is small having an area of but 423 square miles. The population in 1905 was 23,476. The foreign born number about one-sixth of the total population and are almost exclusively German. Washington county is one of the oldest counties in the state and has long had all its available land under cultivation. The total farm area is 252,473 acres, of which 161,010 acres have been improved. The valuation of these farms including improvements in 1905 was \$16,849,720. The surface of the county is rolling and hilly. A range of hills extends through the central part of the county in a somewhat southwesterly direction, constituting a part of the terminal moraine. The soils in general are

very fertile. Covering the larger part of the county the soils are clayey loams of the lighter and medium varieties, the latter being more common. Extending from the center in a south-westerly direction is a large tract of light clayey loam. The central part of the county and extending to the northern boundary is a calcareous sandy loam. There is practically no marsh land. The chief crops and the approximate acreage devoted to each in 1890 and 1905 are as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	19,845	27,878
Barley	31,737	41,365
Rye	5,206	3,863
Corn	11,335	14,698
Clover Seed	7,466	4,769
Hay	31,259	29,926

Sugar beets are also an important crop. Washington county ranks as one of the leading barley and clover seed producing counties in the state. It has also a strong dairy industry. In 1905 there were 44 cheese factories, 9 creameries and 2 skimming stations within its boundaries. Unimproved land ranges in price from \$20 upward, the price depending upon location and quality of soil. Improved land ranges in price from \$75 to over \$100 per acre. West Bend is the county seat. The table on page 820 gives the population of the cities, towns and villages for 1905:

ALLENTON.

Allenton, Washington Co. Population, 200. An unincorporated village on the W. C. Ry., on the Rock river, 8 miles west of West Bend, the county seat and banking point, 39 miles from Milwaukee, and 124 miles from Chicago. National Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is supplied with plenty of water, a hardware and 2 general stores, 3 hotels, 3 boarding houses, a public school, 2 physicians, furniture store, blacksmith shop, harness shop, lumber yard and saw and planing mill.

A canning factory can be supplied with fruit and vegetables, and clay, sand and timber are the natural products. A limited amount of help can be secured in the village.

About 80 per cent of land adjoining the village suitable for crop raising is improved. The land is level and free from stone with a small per cent swampy along the river.

WASHINGTON COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Addison	238	838	824	1,752	1,732			4	316
Barton	253	656	615	1,271	1,271			9	211
Erin	205	583	539	1,122	1,122			1	217
Farmington	269	682	639	1,321	1,321			21	243
Germantown	370	935	950	1,885	1,885			5	370
Hartford	243	665	602	1,267	1,267			6	269
Hartford, city:									
ward 1.....	282	514	612	1,156	1,156				
ward 2.....	230	416	480	896	896				
Total, city...2,052								21	592
Jackson	328	943	821	1,764	1,764			7	316
Kewaskum	164	415	411	816	816			6	173
Kewaskum, village	169	229	364	693	693			3	127
Polk	269	756	651	1,407	1,407			11	240
Schleislingerville, vil.	126	245	243	488	488			2	92
Richfield	312	655	782	1,637	1,637			9	33
Trenton	310	739	785	1,524	1,524			5	319
Wayne	238	658	609	1,297	1,297			7	251
West Bend	143	425	593	823	823				157
West Bend, city:									
ward 1.....	282	536	546	1,082	1,082				
ward 2.....	254	623	634	1,250	1,250				
Total, city...2,362								21	406
Total	4,705	11,916	11,500	23,473	23,473			132	4,792

GERMANTOWN.

Germantown, Washington Co. Population, 240. An unincorporated village located on the C., M. & St. P. Ry., in the southern part of the county, 16 miles from West Bend, the county seat and banking point, 21 miles from Milwaukee and 100 from Chicago. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village is supplied with water from flowing wells, has 2 general stores, graded school employing 2 teachers, 1 physician, 1 condensed milk factory, lime kiln, 2 lumber yards, harness shop and a meat market.

The village is in need of a good hotel and livery, a good harness maker, shoemaker, tinsmith, barber and a painter.

Steam power is used. Wood and coal are used for fuel. Wood is obtained from the locality and coal from Milwaukee. Vegetables can be furnished for canning. Clay, sand and stone are the natural products. Some help can be secured here.

The surrounding country is all good farming land and about 85 per cent of it is improved.

JACKSON.

Jackson, Washington Co. Population, 250. An unincorporated village on C. & N. W. Ry., 7 miles from West Bend, the county seat and banking point, 27 miles from Milwaukee and 112 miles from Chicago. American Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has 1 hardware and 2 general stores, 2 hotels, graded school employing 2 teachers, 2 physicians, and a flour mill.

Steam power is used. Wood and coal are used for fuel. Wood is obtained from the surrounding country and coal from Milwaukee. Good location for a canning factory which can be supplied with fruit and vegetables. Some help can be secured in the vicinity.

This is a good farming country and 75 per cent of the land is improved. The land is 85 per cent level and free from stone with 10 per cent swampy and 5 per cent sandy.

KEWASKUM.

Kewaskum, Washington Co. Population, 693. An incorporated village in the northern part of the county, on the C. & N. W. Ry., and on the Milwaukee river, 8 miles northwest of West Bend, the county seat, 41 miles from Milwaukee and 123 miles from Chicago. American Express. Telegraph and telephone. Shipping facilities and passenger service good.

The village has good streets, shade trees in the resident section, electric lights, 2 banks, a drug store, 3 groceries, 4 hardware and 3 general stores, 3 hotels, 2 boarding houses, high school employing 7 teachers, Baptist, Catholic, Congregational, Lutheran, Methodist and Reformed churches, 3 physicians, 1 lawyer, city hall, flour mill, machine shop, malt house, saw mill, planing mill, brick yard, lumber yard and a creamery. A weekly newspaper is published. Good location for brick or tile factory and a general store.

There is a small water power not developed. Wood and coal are the fuels used. Wood is obtained from the adjacent country. Fruit and vegetables can be supplied for canning. Clay, sand, timber and stone are the natural products. A limited amount of help can be secured in the village.

The surrounding country is good for farming and is all improved. All good soil excepting a few hills which are sandy.

ST. LAWRENCE.

St. Lawrence, Washington Co. Population, 200. An unincorporated village in the western part of the county, 12 miles southeast of West Bend, the county seat, $3\frac{1}{2}$ miles from Schleisingsville, the nearest railroad station, and 5 miles from Hartford, the nearest banking point.

Has 2 groceries, 1 hardware and 1 general store, 2 hotels, graded public school employing 4 teachers, blacksmith shop, wagon shop, cheese factory, distillery, wholesale liquor dealer, planing mill and a saw mill. A condensing factory could be supplied with milk. Good location for canning factory.

Steam power is used. Coal and wood are used for fuel. Wood is obtained from the surrounding country and coal from Milwaukee. A canning factory can be supplied with fruit and vegetables. There are unlimited quantities of clay, sand, peat and stone near the village, and some available timber. Help can be secured in the village and vicinity.

The surrounding country is good for agricultural purposes and 80 per cent of the land suitable for crop raising is improved. About three-fourths of the land is level and stony, but is all cleared and well improved.

WEST BEND.

West Bend, Washington Co. Population, 2,362. The county seat of Washington county, an incorporated city located on the C. & N. W. Ry., and on the Milwaukee river, 23 miles northwest of Milwaukee, and 118 miles from Chicago. Western Union telegraph. American Express. Telephone exchange. Good shipping facilities and passenger service.

The city is supplied with an excellent system of water works, an efficient fire department, 2 banks, a full complement of stores and shops, a laundry, 3 good hotels, high and graded public schools employing 14 teachers, a free public library, Catholic, Episcopal, Lutheran, Methodist and Reformed churches, 4 physicians and 5 lawyers. The more important industries are carriage and wagon works, flour mills, brewery, 2 malt houses, spoke and bending works, agricultural implement works, a pocketbook and purse factory, collar and harness factory, bicycle factory, pearl button factory, saw mills and 2 creameries. Three weekly newspapers are published. The city will offer good inducements to new manufacturing industries.

The water power is all utilized. Coal and wood are used for fuel. Coal is obtained at Milwaukee. Fruit and vegetables can

be supplied for canning. Clay, sand, peat, timber and ~~sand~~ are the natural products. Plenty of help can be secured in the city.

This is a first class farming section and 80 per cent of the land suitable for crop raising is improved. The land is level and free from stone, good soil, no swamps and a very small per cent of sand.

WAUKESHA COUNTY

Waukesha county is situated in the southern part of the state. In area it is 562 square miles. The population in 1905 was 35,822. Over one-fifth of the population is foreign born, of which number Germans represent considerably over one-half. There is practically no unimproved land in the county, all available for farming having long since been placed under cultivation. The present valuation of the farms including improvements is \$22,745,659. The topography of the county is rather hilly. The so-called better moraine extends in a northeasterly direction through the western part. This consists of a range whose surface is characterized by numerous irregular and circular indentations, varying in depth from 30 to 100 feet. There are many trough-like winding depressions to lakes several miles long. The soils of the eastern half of the county are clayey loams of the medium and heavier varieties. The western half of the county is a light clayey loam. There are several tracts of prairie loam in the southern part. Numerous irregular areas of humus soil, consisting mainly of muck and peat are found throughout the county but are most frequent in the western part. The leading crops and the acreage devoted to each in 1890 and 1905 was as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	29,313	41,444
Barley	32,560	18,128
Rye	3,554	6,416
Corn	23,160	30,072
Hay	55,589	53,589

Considerable interest is being manifested in the raising of sugar beets. Truck is also an important source of farm

income. The stock growing and dairy industry has reached considerable proportions, the latter being represented by 4 cheese factories, 32 creameries, and 5 skimming stations. The unimproved land in the county consists mainly of small tracts owned in connection with improved farms or stretches of untillable range land or swamps. The best improved land ranges in price from \$80 to \$100 per acre. Some improved lands not possessing the best qualities of soil ranges from \$40 to \$70 per acre. Good truck farms often sell for \$150 per acre. Waukesha is the county seat. The following table shows the population of the cities, towns and villages for 1905.

WAUKESHA COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Brookfield	392	1,007	1,008	2,015	2,115	...	...	7	369
Delafield	283	743	632	1,375	1,373	2	...	11	325
Hartland, village	182	348	325	673	673	...	...	9	95
Eagle	167	442	374	816	816	...	...	12	151
Eagle, village	93	147	156	303	303	...	...	10	50
Genesee	317	744	626	1,370	1,370	...	...	9	275
Lisbon	307	829	731	1,560	1,550	...	...	10	102
Menomonee	457	1,199	1,120	2,319	2,319	...	...	8	462
Menomonee Falls, vil..	236	477	459	936	936	...	...	10	202
Merton	357	873	798	1,671	1,671	...	...	4	341
Mukwonago	173	428	374	802	802	...	...	3	151
Mukwonago, village ..	150	247	236	483	483	...	...	9	73
Muskego	288	767	636	1,403	1,403	...	...	13	297
New Berlin	316	932	811	1,743	1,743	...	...	11	366
Oconomowoc	284	733	670	1,403	1,400	3	...	7	232
Oconomowoc, city:									
ward 1.....	337	589	658	1,247	1,247	...	...	...	...
ward 2.....	449	853	913	1,766	1,763	*3	...	...	...
Total, city...3,013								23	428
Ottawa	196	503	799	902	902	...	...	5	171
Pewaukee	315	992	792	1,784	1,775	9	...	3	341
Pewaukee, village	197	396	367	763	763	...	...	1	170
Summit	216	626	629	1,255	1,254	1	...	9	257
Vernon	290	704	603	1,307	1,307	...	...	9	217
Waukesha	203	488	489	977	976	1	...	9	178
Waukesha, city:									
ward 1.....	226	783	518	1,301	1,297	4	...	...	...
ward 2.....	339	721	743	1,464	1,454	10	...	...	...
ward 3.....	170	410	426	836	836	...	...	...	...
ward 4.....	313	590	594	1,274	1,265	6	...	...	...
ward 5.....	188	381	515	896	896	...	...	...	...
ward 6.....	266	545	633	1,178	1,177	1	...	...	...
Total, city...6,949								51	1,275
Total	7,707	18,487	17,335	35,822	35,782	40	...	252	6,841

*2 Chinamen.

BROOKFIELD.

Brookfield, Waukesha Co. Population 400. 6 miles from Waukesha, the nearest banking point. Located at the junction of two divisions of the C. M. & St. P. Ry. Telephone system. Western Union telegraph. United States Express.

Brookfield on account of its excellent railroad facilities, there being four lines of the C. M. & St. P. Ry. radiating from this place, offers excellent advantages for the location of manufacturing establishments. There are no factories here at the present time. The surrounding country could be drawn upon for about 200 factory employees. If a canning factory would locate here vegetables could be furnished in large quantities. There are two physicians and one lawyer. There are 3 hotels with accommodations for approximately 100 persons.

DELAFIELD.

Delafield, Waukesha Co. Population 300. 1 mile from Waukesha, 5 miles from Hartland, the nearest banking point, and $2\frac{1}{2}$ miles from Nashotah, the nearest shipping point. There is a daily stage to Nashotah to meet all trains of the C. M. & St. P. Ry. at this place; fare 25 cents. There is an electric railway connecting this place with Waukesha and Milwaukee. This line will be extended to Oconomowoc during the present year. Telephone system. United States Express.

There is now located here a creamery, 2 grist and flour mills, an extensive fish hatchery, a sanitarium and the usual number of stores. A weekly newspaper is published. A bank is wanted at this place. A summer hotel is needed here to care for the rapidly growing summer business. A factory for the canning of fruit and vegetables is greatly desired by the surrounding country. There is located at Delafield, the St. John's Military academy. There is a large amount of clay of excellent quality and also good building stone.

Delafield is built on Nagawicka Lake and is becoming a very popular summer resort. There are two hotels with accommodations for about forty persons.

DOUSMAN.

Dousman, Waukesha Co. Population 500. 18 miles from Waukesha, 8 miles from Oconomowoc, the nearest banking point. C. & N. W. Ry. Telephone system. Western Union Telegraph. American Express.

Sand and building stone are the two leading raw materials. Fruit and vegetables are furnished in large quantities by the surrounding country. A labor supply amounting to from 150 to 200 people can be obtained from the surrounding coun-

try. A canning factory is especially desired here. A bank and drug store are also needed.

Dousman is at present a popular summer resort. It has three hotels with accommodations for about 120 persons and is visited annually by a large number of summer visitors.

DUPLAINVILLE.

Duplainville, Waukesha Co. Population 600. 5 miles from Waukesha, the nearest banking point. C. M. & St. P. and Wis. Central railways. Telephone system. Western Union Telegraph. United States and National Express.

Clay, sand and stone are the principal raw materials. There is one bank and one drug store here. Duplainville is located in a very wealthy agricultural and dairy community. There is now located here a pickle factory and a large creamery. This place is one of the most extensive milk shipping points on the C. M. & St. P. railway. A new hotel is greatly desired here.

This city has also advantages as a summer resort being located about two miles from a large lake.

EAGLE.

Eagle, Waukesha Co. Population, 303. 16 miles from Waukesha, 37 miles from Milwaukee. C. M. & St. P. Ry. Telephone system. Western Union Telegraph. United States Express.

Clay, sand and timber can be obtained in large quantities. Eagle is located in the center of a wealthy lake district. Vegetables are raised in large quantities. A pickle factory is especially desired at this place by the surrounding country. There is 1 bank, 1 drug store, several grocery and drygoods stores, 1 physician but no lawyer. A new hotel is greatly needed.

Eagle is located in a lake region which has made it a popular summer resort. There are two hotels but the accommodations they offer are entirely inadequate for the growing summer resort business. Several thousand people visit the lakes in the neighborhood of Eagle each summer.

HARTLAND.

Hartland, Waukesha Co. Population, 673. 7 miles from Oconomowoc, 10 miles from Waukesha and 23 miles from Milwaukee. C. M. & St. P. Ry. Telephone system and gas plant. Western Union telegraph. United States Express.

Hartland is located on the Bark river at a place where there is a considerable fall and a water power could be developed. A mill was formerly operated by this power but the building was

destroyed by fire and not rebuilt. There is a large amount of clay and sand near the village. There are located at this place 1 bank, 1 drug store, several grocery and drygoods stores, one grain elevator and four churches. There are several hotels at the lakes two or three miles away from the village, but a new hotel is needed at the village. There is a especially wanted here, a canning and pickling factory and a laundry. Any small manufacturing establishment will be offered reasonable inducements. There are two physicians and one lawyer. A weekly paper is published. Hartland is located in the Waukesha county lake district and is a popular summer resort. Over 1,000 people spend their summers at the resorts surrounding this place.

LANNON.

Lannon, Waukesha Co. Population 500. 10 miles from Waukesha, the nearest banking point. C. M. & St. P. Ry. There is a good water supply for household purposes. There are no electric railway connections. There is no gas or electric light plant. Telephone system. Western Union Telegraph. United States Express.

Lannon is located in the midst of one of the finest quarry sections of the northwest. There are located here ten quarries which furnish crushed stone, paving, footing and building stone to the extent of from 30 to 40 car loads per day. Vegetables are raised in large quantities. Lannon is well located for stone quarry and brick and tile manufacturers. Help can readily be obtained from the surrounding country. There are three hotels with accommodations for about seventy people.

MENOMONEE FALLS.

Menomonee Falls, Waukesha Co. Population 936. 14 miles from Waukesha, 13 miles from Milwaukee. C. M. & St. P. Ry. Telephone system, electric light plant. Western Union Telegraph. United States Express.

There is a water power at this city which when improved will develop approximately 800-horse power. Coal is the principal fuel which is obtained from Milwaukee. Inducements would be offered to secure the location of agricultural implement works or vehicle factories. There is located at this place a large beet-sugar refinery, which during 1935 manufactured 40,000,000 pounds of sugar. A large labor supply can be obtained from the surrounding country. There is 1 bank, 1 drug store, several grocery and drygoods stores and a weekly newspaper. The surrounding country is a well settled agricultural section and a canning factory for the canning of peas and corn would find this village a good location.

MERTON.

Merton, Waukesha Co. Population, 200. 12 miles from Waukesha, 5 miles from Hartland, the nearest banking point. C. M. & St. P. Ry. Telephone system. Western Union telegraph. United States Express.

Owing to the large amount of fruit and vegetables raised in the surrounding country, a canning factory is especially desired here and would find this a profitable location. A labor supply could be obtained from the neighboring country. A bank is also needed here. There is one physician but no lawyer. There are only one hotel and two boarding houses at this place. There are several hotels bordering on the lakes a short distance from the village. Merton is becoming a summer resort.

NORTH PRAIRIE.

North Prairie, Waukesha Co. Population, 300. 11 miles from Waukesha, 31 miles from Milwaukee. C., M. & St. P. Ry. Waukesha is the nearest banking point. Telephone connections. Western Union telegraph. United States Express.

Fruit and vegetables are raised in the surrounding country in large quantities. There is an extensive deposit of marl near the village. An adequate labor supply can be obtained from the neighboring country. There are located at North Prairie 1 drug store, several grocery and dry goods stores and 2 churches. The surrounding country is a very wealthy district. A bank is especially desired at this place. A canning factory would find this an excellent location.

North Prairie is becoming a summer resort being visited each season by a large number of tourists. There is a small lake about two miles from the village whose shores are dotted with summer cottages.

OCONOMOWOC.

Oconomowoc, Waukesha Co. Population, 3,013. 31 miles from Milwaukee, 18 miles from Waukesha, 50 miles from Madison and 111 miles from Chicago. C., M. & St. P. Ry. Electric line to Milwaukee is at present under construction. There is an excellent waterworks system, telephone system and electric light plant. Western Union telegraph. United States Express.

There is a water power at this place which is all utilized. Sand, clay, peat and gravel can be obtained in large quantities. Fruit and vegetables are extensively grown in the surrounding country. There are 2 banks, 2 newspapers, immense ice houses and a large sanitarium. The surrounding country can be drawn upon for about 500 persons to work in factories.

Oconomowoc is located in the midst of the Waukesha county lake district, and its beautiful lakes connected by canals, extensive drives and walks, unexcelled boating and fishing facilities have made this place one of the most popular summer resorts of the northwest. Many beautiful summer homes are located on the shores of the different lakes. There are at present 4 hotels with accommodations for 400 people. Few places offer such an excellent location for a summer hotel. The Business League is engaged in advertising the many advantages of this city.

PEWAUKEE.

Pewaukee, Waukesha Co. Population, 763. 19 miles from Milwaukee and 6 miles from Waukesha. C., M. & St. P. Ry. During the summer, steamers from Pewaukee connect at Waukesha Beach with electric cars for Waukesha and Milwaukee. Telephone system. There is no electric light or gas plant. Western Union telegraph. United States Express.

Sand, peat and stone are the principal raw materials. The surrounding country is an agricultural district raising large quantities of fruit and vegetables. There is desired at this place, a canning factory, cold storage warehouse and a stone crushing plant.

Pewaukee is a very popular summer resort being visited annually by several thousand people. Small steamers and a fleet of other boats accommodate summer visitors. The shores of the lake are dotted with many summer cottages.

WAUKESHA.

Waukesha, Waukesha Co. Population, 6,949. 20 miles from Milwaukee. 62 miles from Madison and 102 miles from Chicago. C., M. & St. P., C. & N. W., and Wisconsin Central Rys. Electric line to Milwaukee. An electric railway to Oconomowoc is under construction. There is an excellent waterworks system. Telephone system. Gas and electric light plants. Western Union telegraph. United States, American, and National Express.

Sand and stone are the principal raw materials. The principal manufacturing industries of this city and which have grown very extensively are the manufacture of iron and steel, malleable iron, structural iron, and extensive quarries adjoin the city. Among the chief industries of this city are the mineral springs, the properties of whose waters have given this city a world wide reputation. The shipments of water have grown to immense proportions. There are 2 banks, 3 newspapers, and 11 churches at this place. There are 9 hotels, some of them very large and with accommodations for approximately 3,000 persons. There are several sanitariums on the lake shores near the city. Another first class hotel is needed here. Waukesha is the site of Carroll College which has both academic and

collegiate departments. Wisconsin's State Industrial School for boys is located here. There are 15 physicians, 21 lawyers and 47 teachers are employed in the public schools. Waukesha is one of the finest summer resorts of Wisconsin.

WAUPACA COUNTY.

Waupaca county is located in the east central part of the state. The area of this county is 749 square miles. The population in 1905 was 33,467, a gain of 1,852 over the census of 1900. Over one-fifth of the population is of foreign birth, Germans largely predominating with Norwegians and Danes next in order as to number. It is a wealthy agricultural county possessing an excellent soil. The farm area in 1905 was 335,547 acres, with 165,290 acres improved. While the acreage has not been largely increased, the valuation of the farms has more than doubled during this time, increasing from \$6,422,349 in 1890 to \$13,666,942 in 1905. The surface, as a whole, is rolling and hilly, necessitating short steep grades along many of the roads. The soils of the northern and central parts are clay loams varying to lighter loams. It is generally stony but not to such an extent as to seriously interfere with the tillage. There are considerable areas where the amount of stones is very small and boulders are nearly entirely absent. The forest growth of this soil is mainly such hardwoods as birch, basswood, maple and scattering white pine. This soil is not so well suited to grasses and clover as for corn and potatoes. Garden truck and small fruits grow in abundance. An excellent dairy and stock growing industry maintained with ease, and is destined to occupy a much more important part in the income of the community. The soil of the southern part and also a strip along the western boundary is a rich sandy loam, varying considerably in the relative amounts of sand and clay. The surface soils consist of four to ten inches of light loam, enriched by a variable amount of organic material. The sub-soil is of brownish clay mixed with boulders and pebbles. Considerable wash has taken place in this rolling country and loamy clays are often found in the bottoms. Boulders are most prominent upon the hills and ridges. The forest growth is generally a dense scrub oak and scanty poplar. This soil is good strong land and when prop-

erly farmed is very productive. It surpasses all other soils in the production of potatoes, which in quality are equal to the best in the country. There are numerous irregular swampy tracts in the northern part of the county. Potatoes, dairy products and stock are the principal exports from the farms. The chief crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	12,564	3,071
Oats	22,963	36,786
Barley	1,056	3,748
Rye	7,330	8,172
Corn	12,709	15,815
Hay	33,867	47,382
Potatoes	11,127	16,130

The dairy interests are represented by 28 cheese factories, 20 creameries, and 6 skimming stations. The price of unimproved land which can be made tillable averages about \$10 per acre. For improved farm lands, the price ranges from \$20 to \$80 per acre. Waupaca is the county seat. The table on page 823 shows the population of the local political divisions for 1905:

CLINTONVILLE.

Clintonville, Waupaca Co. Population, 1,837. 35 miles from Waupaca, 156 miles from Milwaukee. C. & N. W. Ry. Has electric light plant. Telephone system. Western Union telegraph. American Express.

Clintonville is located on a water power stream where considerable power may be developed. Wood is the principal fuel and is obtained from the surrounding country. Clay, sand, stone and timber are the raw materials which can be obtained in large quantities. There are no unoccupied factories here at the present time. Reasonable inducements will be offered to secure the location here of a shoe factory. Clintonville is also well located for establishing a box factory, a canning factory, and for the location of a beet sugar factory. A labor supply can be readily obtained from the surrounding country. There are now located here 2 banks, 3 drug stores, several general stores, a planing mill, 2 shingle mills, 2 saw mills, sash, door and blind factory, a brick and tile-works and 2 weekly papers. There are 4 physicians and 4 lawyers. The

surrounding country possesses an excellent agricultural soil of which about seventy per cent is improved. The principal shipments from here are grain, potatoes, timber products and live stock. There are at present five small hotels with accommodations for about 100 persons; but a new hotel is greatly desired.

WAUPACA COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Boar Creek	223	636	591	1,227	1,227	.....	.....	10	164
Caledonia	171	481	453	934	896	.....	.....	7	159
Clintonville, city	407	875	902	1,837	1,831	6	.....	28	297
Dayton	217	485	431	916	916	.....	.....	15	177
Dupont	197	516	483	1,029	1,029	.....	.....	3	164
Marion, village	157	364	382	746	746	.....	.....	6	151
Farmington	431	900	818	1,778	1,778	.....	.....	404	405
Freemont	98	248	220	468	468	.....	.....	3	89
Freemont, village	71	153	147	300	300	.....	.....	8	51
Harrison	119	305	252	557	557	.....	.....	72	104
Helvetia	120	338	247	585	585	.....	.....	4	123
Iola	159	435	384	819	819	.....	.....	13	166
Iola, village	181	422	379	801	801	.....	.....	14	187
Laraboo	255	779	693	1,472	1,472	.....	.....	7	203
Lebanon	183	535	447	982	982	.....	.....	4	213
Lind	27	563	521	1,084	1,084	.....	.....	8	165
Little Wolf	224	731	669	1,400	1,400	.....	.....	7	224
Mannwa, village	200	437	444	881	881	.....	.....	17	172
Matteson	163	475	38	863	863	.....	.....	6	144
Embarrass, village	71	146	139	285	285	.....	.....	4	49
Muckwa	118	533	453	985	986	.....	.....	20	172
New London, city:									
ward 1	169	310	381	721	721	.....	.....	.....	.....
ward 2	157	243	240	483	478	5	.....	.....	.....
ward 4	153	355	354	709	709	.....	.....	.....	.....
ward 5	96	205	209	414	414	.....	.....	.....	.....
Total, city	515	1,113	1,184	2,297	2,297	.....	.....	43	456
Royalton	256	675	610	1,285	1,285	.....	.....	19	222
Scandinavia	170	507	446	953	953	.....	.....	3	179
Scandinavia, village	82	182	173	355	355	.....	.....	3	68
St. Lawrence	251	625	569	1,194	1,192	2	.....	23	221
Union	280	646	617	1,263	1,263	.....	.....	8	194
Waupaca	207	510	416	926	923	.....	.....	8	189
Waupaca, city:									
ward 1	206	371	382	753	711	18	4	.....	.....
ward 2	200	384	416	800	800	.....	.....	.....	.....
ward 3	185	377	377	754	734	.....	.....	.....	.....
ward 4	145	265	321	586	586	.....	.....	.....	.....
Total, city	736	1,400	1,506	2,906	2,906	.....	.....	.....	.....
Wauauwaga	130	320	270	590	591	.....	.....	75	529
Wauauwaga, village	240	477	516	993	993	.....	.....	7	98
Wyoming	119	379	307	686	686	.....	.....	20	181
Total	7,381	17,368	16,099	33,467	33,442	21	4	368	5,848

*Includes total for Waupaca and Outagamie counties.

†1 Chinaman.



FIELD OF OATS IN NORTHERN WISCONSIN.

FREMONT.

Fremont, Waupaca Co. Population, 300. 16 miles from Waupaca and 7 miles from Weyauwega. Fremont is not located on any railroad, being $3\frac{1}{2}$ miles from the Wisconsin Central line. There is stage twice daily to meet Wisconsin Central trains. Western Union telegraph and telephone. National Express.

Fremont is an incorporated village. There is a tract of land comprising 300 acres which is well located for factory purposes. Wood is extensively used for fuel which is obtained from the surrounding country. Sand, clay and timber are the only raw materials. Fremont is dependent entirely upon the agricultural trade, being the center of a well settled farm community. Fruit and vegetables are grown in large quantities. A canning factory is desired at this place by the surrounding country. A bank is also wanted. There are located here 1 drug store, several general stores, 1 creamery, 1 cheese factory, a saw mill and planing mill. There is 1 physician. Fremont has many advantages as a summer resort. It is located on Wolf river and Partidge lake. Facilities for boating, hunting and fishing are unsurpassed. It has two hotels with accommodations for about 100 persons. A new hotel is desired at this place.

IOLA.

Iola, Waupaca Co. Population, 801. 12 miles from Waupaca, 120 miles from Milwaukee. Iola & Northern Ry. Stage daily to Northland and Norseke. Has an electric light plant. Telephone system. Western Union telegraph. United States Express.

Wood is extensively used for fuel. The principal raw materials are sand and hardwood timber. There are no factories here at the present time, but special inducements would be offered to secure the location of a canning or pickling factory. About 100 laborers could be obtained from the surrounding country. There are now located at this place 2 banks, 1 drug store, several general stores, 4 potato warehouses, a flour mill, 2 saw mills, 3 planing mills, a potato starch factory and a creamery. A weekly newspaper is published. A table factory was formerly established here. There are 2 physicians and 1 lawyer. There are 2 hotels and 2 boarding houses, which furnish ample accommodations.

MANAWA.

Manawa, Waupaca Co. Population, 881. 15 miles from Waupaca. G. B. & W. Ry. Telephone system. Electric light plant. Western Union telegraph. United States Express.

Manawa is located on Little Wolf river. There is a water supply at this place of which about 100 horse power has not yet been utilized. Such raw materials as clay, sand, marl, stone and timber can be furnished in large quantities. There is now located here 1 bank, 2 drug stores, several general stores, a lumber company, lath and shingle mill, a brick and lime company, flour mill and a weekly newspaper. There are 2 physicians and 2 lawyers. Reasonable inducements would be offered to secure the location of some wood-working factory, a milk condensing company and a woolen mill. About two-thirds of the surrounding country has been improved for crop raising.

Manawa is not at present a summer resort but could be made one. It is located about two miles from a beautiful lake. It has two hotels with accommodations for fifty persons which are ample at present.

MARION.

Marion, Waupaca Co. Population, 746. 30 miles from Waupaca and 168 miles from Milwaukee. C. & N. W. Ry. Daily stage to Caroline, Pella and Leopolls. Telephone system. Gas plant. Western Union telegraph. American Express.

Marion is an incorporated village. There is a water power at this place. Wood is the principal fuel which is obtained from the

surrounding country. Such raw materials as clay, sand, timber and stone can be obtained in abundance. The surrounding country, about two-thirds of which is improved for crop raising, is a rich soil and produces large quantities of fruit and vegetables. A canning factory is especially desired at this place by the village and also the surrounding country. A labor supply can be readily obtained. There are 3 small hotels but the accommodations are not sufficient. A new hotel is needed. Marion is not a summer resort at present but has many advantages in this direction. A weekly newspaper is published.

NEW LONDON.

New London, Waupaca Co. Population, 3,002. 23 miles from Waupaca, 30 miles from Green Bay and 140 miles from Milwaukee. G. B. & W. and C. & N. W. Rys. Wolf river is navigable to this point. Telephone system. Electric light plant. Western Union telegraph. United States and American Express.

Sand, clay, peat, marl, timber and stone can be furnished in large quantities. Several hundred persons could be easily secured from the surrounding country to work in additional factories. There are now located here 2 banks, 3 drug stores, several grocery and dry goods stores and general stores, 2 weekly newspapers, a saw mill, a boat factory, a large chair factory, a flour mill and factories for the manufacture of bee hives. There is also a canning factory and a milk condensing plant. There are 8 physicians and 5 lawyers. There are 3 hotels and 4 boarding houses which furnish ample accommodations for the present. New London is becoming a popular summer resort.

New London is the center of an excellent farming community, about seventy per cent of the surrounding country being improved for farming purposes.

OGDENSBURG.

Ogdensburg, Waupaca Co. Population, 350. 9 miles from Waupaca, the nearest banking point. G. B. & W. Ry., Western Union telegraph. United States Express.

There is a small water power at this place. Clay, sand and stone are the raw materials which can be obtained in large quantities. Fruit and vegetables could be furnished to supply a canning factory here. About 100 persons could be secured from the surrounding country to work in factories. About sixty per cent of the surrounding country has been improved

for agricultural purposes. There is 1 physician but no lawyer here. One small hotel has accommodations for about twenty persons.

ROYALTON.

Royalton, Waupaca Co. Population, 300. 13 miles from Waupaca and 7 miles from New London, the nearest banking point. G. B. & W. Ry. Western Union telegraph. United States Express.

Royalton is located on the Little Wolf river, at a water power site. About 300 horsepower is not yet utilized. Clay, sand, peat, lime, marl and timber can be obtained in large quantities. Royalton is the center of an extensive farming community. Special inducements will be offered to secure the location of a starch factory or any small industry. Royalton was at one time the seat of a flourishing lumber industry, but its mills have moved away since the heavy sawed timber has been cut. There is 1 physician. A new hotel is wanted here.

WAUPACA.

Waupaca, Waupaca Co. Population, 2,873. 29 miles from Stevens Point, 120 miles from Milwaukee, 155 miles from Madison and 221 miles from Chicago. Wisconsin Central Ry. Telephone system. Electric light plant. Western Union telegraph. National Express.

Waupaca is located upon the Waupaca river at a point where there is a water power of which about 100 horse power is not yet utilized. Peat, sand, clay, marl and timber can be furnished in large quantities. There is an excellent deposit of gravel a few miles from the city. About three hundred persons could be obtained from the neighborhood to work in additional factories. There are located here at the present time 2 banks, 4 drug stores, the usual number of retail stores, 3 newspapers, a flour mill, machine shop, 2 starch factories, 2 planing mills and a saw mill. There are 5 physicians and 8 lawyers. Waupaca is the center of the great Wisconsin potato belt, over 1,000,000 bushels being shipped from this place each season. Four miles from the city and connected with it by electric road is the famous Chain of Lakes, one of the finest summer resorts in the state. On the banks of one of these beautiful lakes is located the Wisconsin Veterans' Home, with a population of about 700. There are 4 hotels with accommodations for about 3,000 persons. There are many cottages along the lake shores. Fishing, bathing and boating are all that can be de-

sired. Three steamers make daily trips. Waupaca is an excellent summer resort and is visited by about 5,000 persons every summer.

WEYAUWEGA.

Weyauwega, Waupaca Co. Population, 1,000. 9 miles from Waupaca, 122 miles from Milwaukee. Wisconsin Central Ry. Telephone system. Electric light plant. Western Union telegraph. National Express.

Weyauwega is located on the Waupaca river at a point where there is considerable water power. There is about 500 horse power not yet utilized. At a point about three miles above the village, there is a suitable site for a water power capable of developing nearly 1,000 horsepower. Such raw materials as clay, peat, sand, stone, marl and timber can be obtained in large quantities. About one-half of the soil of the surrounding country has been improved for agricultural purposes. Large quantities of fruit and vegetables are now being raised. There are now located at this place 2 banks, 3 drug stores, several general stores, 2 creameries, 2 potato warehouses, an elevator and flour mill. Two weekly papers are published. There is an unoccupied factory at this place which was formerly used as a trunk factory, but which failed. This building is located near a water power and has a spur track. About 200 laborers could be secured from the surrounding country. A canning and pickling factory and a brick yard. There is a considerable interest in the culture of sugar beets and the location of a sugar beet factory would meet with the hearty approval of this village and the neighboring country. There are located here 3 physicians, 2 dentists and 3 lawyers. Weyauwega is a summer resort, being located a few miles from a group of lakes. It has excellent hotel accommodations.

WAUSHARA COUNTY.

Waushara county is located in the east central part of the state. The area of this county is 639 square miles. The population in 1905 was 17,643, a gain of 1,671 over the census of 1900. About 16 per cent of the population is of foreign birth, of which number Germans constitute nearly one-half. There are large numbers of Danish and Norwegian settlers. The

total area of the farms of the county in 1905 was 345,441 acres, of which 198,391 acres were improved. In 1890 the total farm area was 313,835 acres with 159,592 acres improved. Since the county was well settled at a comparatively early date, the acreage population devoted to agriculture has not increased as rapidly in recent years as in other counties, but the value of the farms has increased from \$4,230,760 in 1890 to \$10,365,437 in 1905, an increase of 145 per cent during this period. The northwestern part of the county is a prairie-like plane with a sandy soil containing a variable amount of gravel and small pebbles. This soil is warm and readily tilled and well adapted to the growing of vegetables, corn, oats, rye and potatoes, the latter being the principal export crops of the district. Dairy products and live stock are also growing sources of farm income. The larger part of the county is of an uneven and rolling topography, the formation consisting of steep hills and ridges. Boulders of various sizes constitute a prominent feature of the county. The surface soil is sandy loam varying considerably in the relative amounts of sand and clay and enriched by considerable organic material. The subsoil is a brownish clay in which boulders and pebbles are numerous. The soil varies more or less with the surface features. This sandy loam is a strong soil and with proper cultivation is very productive. Like the sandy loams of southern Waupaca county it is well adapted to the growth of corn, potatoes, oats, grasses and clover. It is unexcelled for the growth of potatoes, which in yield and quality equal the best of the country. Waushara, Portage and Waupaca counties constitute one of the wealthiest potato regions in the United States. Next to potatoes, dairy products and stock are the leading farm exports. The soil in the eastern tier of townships is a heavy red clay. There are numerous areas of swampy land in the eastern and southern part of the county. The chief crops and their acreage in 1890 and 1905 were as follows:

	Acreage in 1890.	Acreage in 1905.
Oats	19,637	23,246
Rye	17,238	19,413
Corn	21,086	23,773
Clover Seed	4,368	4,937
Hay	24,633	37,619
Potatoes	6,966	17,999

There are 5 cheese factories, 20 creameries and 14 skimming stations in the county. In the production of cranberries the county ranks second with 664 acres devoted to that purpose. The price of wild unimproved land ranges from \$12 to \$40 per acre. Improved farms range in price from \$40 to \$100 per acre. The most expensive lands are in the eastern part of the county. Wautoma is the county seat. The population of the different political units of the county in 1905 was as follows:

WAUSHARA COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Aurora	206	500	475	975	975	.....	.....	20	182
Berlin, city:									
*Part of 2d ward	8	23	18	41	41	.....	.....	.....	9
Bloomfield	223	622	563	1,185	1,185	.....	.....	16	219
Coloma	214	482	433	915	915	.....	.....	17	174
Dakota	105	261	227	488	488	.....	.....	6	70
Deerfield	149	339	315	7 4	704	.....	.....	6	149
Hancock	167	395	340	735	735	.....	.....	19	129
Hancock, village	123	241	227	468	468	.....	.....	20	106
Leon	181	434	368	802	802	.....	.....	9	157
Marion	108	641	395	1,036	1,036	.....	.....	9	199
Red Granite, village ..	85	245	154	399	399	.....	.....	1	144
Mt. Morris	142	326	279	605	605	.....	.....	10	148
Oasis	156	439	358	797	797	.....	.....	11	168
Plainfield	196	463	459	922	922	.....	.....	27	144
Plainfield, village	234	411	418	829	829	.....	.....	33	158
Poyssippi	227	527	478	1,005	1,005	.....	.....	19	216
Richford	167	378	273	651	611	.....	.....	1	122
Rose	156	432	373	807	807	.....	.....	3	150
Wild Rose, village....	127	246	251	497	497	.....	.....	10	102
Saxeville	159	465	405	870	870	.....	.....	5	177
Springwater	137	349	284	633	633	.....	.....	12	130
Warren	154	459	346	805	805	.....	.....	8	150
Wautoma	142	363	301	664	664	.....	.....	4	148
Wautoma, village	210	401	449	850	850	.....	.....	24	150
Total	3,716	9,452	8,191	17,643	17,643	.....	.....	290	3,529

*For total see Green Lake Co.

CALOMA.

Coloma, Waushara Co. Population, 250. An unincorporated village located on the W. C. Ry., in the southwestern part of the county, 35 miles from Stevens Point, 73 miles from Madison, and 130 miles from Milwaukee. National Express. Telegraph and telephone. Fair shipping facilities and passenger service.

Has a bank, drug store and 3 general stores, 1 hotel, a boarding house, graded school employing 2 teachers, Methodist Episcopal and Lutheran churches, 1 physician, furniture store, blacksmith shop, harness shop, grain elevator and a creamery.

Steam power is used. Wood and coal are used for fuel. Wood is obtained from the surrounding country and coal from the east. Vegetables are raised and clay, sand and stone are the natural products. Some help can be secured here.

About one-half of the adjacent country is level and free from stone and the rest rough and stony. Seventy-five per cent of the land suitable for crop raising is improved.

POYSIPPI.

Poysippi, Waushara Co. Population, 200. An unincorporated village on Pine river, Poysippi township, 18 miles northeast of Wautoma, the county seat, and 18 miles north of Berlin, the nearest railroad station and banking point. Has telephone connections.

The village has 3 general stores, 1 hotel, no boarding houses, a public school with two departments, 2 physicians, good churches, furniture store, saw mill, flour mill and a creamery.

There is a water power estimated at 100 horse power, not utilized. Wood is obtained from the surrounding country. Fruit and vegetables can be supplied for canning and cucumbers for pickling. This village can be supplied with clay, sand and lumber. Help can be secured in the village and vicinity. Good location for a pickle salting station.

This is a good farming section and 90 per cent of the land is improved. A large per cent of the land is level and free from stone with some swamps.

PLAINFIELD.

Plainfield, Waushara Co. Population, 850. An unincorporated vilalge on the W. C. Ry., in the northwestern part of the county, 18 miles northeast of Wautoma, the county seat, 22 miles from Stevens Point, 87 miles from Madison, 144 miles from Milwaukee. National Express. Telegraph and telephone. Fair shipping facilities and passenger service.

The village is supplied with shady streets, cement walks, is lighted by electricity, has a bank, 2 drug stores, 1 grocery, 2 hardware and 3 general stores, a furniture store, 1 hotel, 3 boarding houses, a \$12,000 high school building, 8 teachers employed. Baptist, Catholic and Methodist churches, \$10,000 opera house, city hall, 3 physicians, 2 lawyers, 6 large potato warehouses, starch factory, flour and feed mill, and a creamery. A weekly newspaper is published. A first-class hotel is needed.

Steam power is used for manufacturing purposes. Wood and coal are used for fuel. Wood is obtained from the surrounding country and coal from Milwaukee and Chicago. Fruit and vege-

tables can be supplied for canning and clay and sand are the only natural products. A limited amount of help can be secured in the village. Good location for a canning factory and pickle factory.

The surrounding country is nearly all level and free from stone. The soil is a sandy loam and 75 per cent of the land suitable for crop raising is improved. This is a prosperous farming country. Dairying and potato raising are the chief occupations.

WAUTOMA.

Wautoma, Waushara Co. Population, 850. An incorporated village on the White river, a water-power stream, and on the C. & N. W. Ry., in Waushara county of which it is the county seat, 54 miles from Fond du Lac, 118 miles from Milwaukee and 208 miles from Chicago. American Express. Telephone and telegraph. Good shipping facilities and passenger service.

The village is located in a good farming community, is well lighted, has 2 banks, 2 drug stores, 4 groceries, 2 hardware and 3 general stores, 1 hotel, 2 boarding houses, high school employing 8 teachers, Catholic, Congregational and Methodist churches, 5 physicians, 3 lawyers, \$10,000 court house, flour mill with a capacity of 125 barrels, a starch factory, cigar factory, and a grain elevator. A weekly paper is published.

There is a small water power here estimated at 60 H. P., not utilized. Wood and coal are the fuels used. Wood is obtained from the adjoining country and coal from Milwaukee. All kinds of vegetables, corn, beans and peas can be furnished for canning. Some help can be secured in the village. This place offers an opening for a potato buyer.

About 75 per cent of the land surrounding the village is improved. The soil is a sandy loam especially adapted for growing vegetables. This is the center of the Wisconsin potato belt and their production is increasing annually. Cucumbers do well in this section and a salting station could be supplied with almost any quantity of pickles.

WINNEBAGO COUNTY.

Winnebago county is located in the east central part of the state. The area is 472 square miles. The population in 1905 was 60,300, a gain of 2,075 since 1900. Over one-fifth of the population is foreign born. Germans represent considerably over one-half of the foreign element, with Danes second in number. Being one of the older counties in the state practically all of the land available for farm purposes has been placed under cultivation. In 1905 the total farm area was 252,548 acres, of which amount 178,640 acres were improved. The total value of such farms including improvements in 1905 was \$17,145,535, as compared with a valuation of \$11,100,528 in 1890. The surface of Winnebago county is generally rolling, although somewhat hilly in the western part. There are no very large or steep hills. The county roads as a rule have light grades. The soils of the county north of the Fox River and along the shore of Lake Winnebago are heavy red clayey loams derived from the red locustrine clays. The southern part of the county is a clayey loam of the lighter variety with a few small tracts of prairie loam. Small areas of humus soils are found in different parts of the county but are found mostly in the northern part.

The leading agricultural products and the acreage devoted to such in 1890 and 1905 were approximately as follows:

	Acreage in 1890.	Acreage in 1905.
Wheat	17,957	2,254
Oats	28,950	40,043
Barley	5,753	16,644
Corn	17,535	20,388
Hay	53,928	43,164

The dairy interests of this county are well advanced. In 1905 there were 38 cheese factories, 25 creameries and 4 skimming stations in the county. The unimproved acreage consists mostly of small tracts owned in connection with improved land. The price of such unimproved land averages about \$40. per acre. For improved land the price ranges from \$65. to \$100. per acre. Oshkosh is the county seat. The population of the cities, villages and towns of the county in 1905 was as follows:

WINNEBAGO COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indians.		
Algoma	188	444	432	876	876	.....	.....	8	145
Blackwolf	160	356	343	699	699	.....	.....	3	146
Clayton	241	610	533	1,143	1,143	.....	.....	9	214
Menasha	129	368	306	673	673	.....	.....	.....	121
Menasha, city:									
ward 1.....	344	834	825	1,659	1,659	.....	.....	.....	312
ward 2.....	235	724	708	1,432	1,432	.....	.....	.....	270
ward 3.....	206	460	480	930	930	.....	.....	.....	180
ward 4.....	268	926	1,013	1,939	1,939	.....	.....	.....	324
Total, city...5,960								29	.....
Neenah	122	351	266	617	617	.....	.....	2	148
Neenah, city:									
ward 1.....	386	879	983	1,862	1,858	*4	.....	.....	.....
ward 2.....	339	716	728	1,444	1,459	1	4	.....	.....
ward 3.....	468	1,028	1,172	2,200	2,200	.....	.....	.....	.....
ward 4.....	119	248	293	541	538	3	.....	.....	.....
Total, city...6,047								47	1,085
Nekimi	217	517	448	966	966	.....	.....	15	218
Nepesiskum	193	481	406	887	887	.....	.....	2	153
Omro	248	570	541	1,111	1,111	.....	.....	5	213
Omro, village	396	601	698	1,300	1,289	.....	1	69	159
Oshkosh	193	979	818	1,797	1,795	2	.....	7	229
Oshkosh, city:									
ward 1.....	348	758	765	1,523	1,522	*1	.....	9	387
ward 2.....	534	1,091	1,187	2,278	2,273	*5	.....	14	407
ward 3.....	377	751	854	1,605	1,605	.....	.....	8	207
ward 4.....	673	1,075	1,290	2,366	2,365	.....	.....	21	453
ward 5.....	626	1,315	1,591	2,906	2,903	3	.....	35	457
ward 6.....	562	1,480	1,332	2,812	2,812	.....	.....	8	545
ward 7.....	421	790	957	1,657	1,649	†9	.....	21	297
ward 8.....	472	1,065	1,051	2,116	2,111	5	.....	11	444
ward 9.....	478	1,033	1,099	2,132	2,132	.....	.....	17	441
ward 10.....	666	1,304	1,517	2,821	2,800	20	1	37	533
ward 11.....	419	914	991	1,905	1,902	3	.....	13	375
ward 12.....	525	1,215	1,215	2,430	2,425	5	.....	18	480
ward 13.....	795	2,013	2,012	4,025	4,024	1	.....	9	761
Total, city...30,575								.....	.....
Poygan	139	365	321	686	636	.....	.....	11	133
Rushford	370	753	758	1,511	1,511	.....	.....	31	273
Utica	213	498	445	943	943	.....	.....	.....	201
Vinland	191	535	472	1,007	1,007	.....	.....	6	192
Winchester	194	532	471	1,003	1,003	.....	.....	13	204
Winneconne	154	338	317	655	655	.....	.....	9	116
Winneconne, village	261	441	501	942	942	.....	.....	20	114
Wolf River	172	486	416	902	902	.....	.....	7	170
Total	13,102	29,744	30,556	60,300	60,233	61	6	516	11,107

*1 Chinaman.

†2 Chinenen.

EUREKA.

Eureka, Winnebago Co. Population, 300. An unincorporated village located on the Fox river, in Rushford township, 18 miles west of Oshkosh, the county seat, 4 miles west of Waukau on the C., M. & St. P. Ry., the shipping point, and 7 miles southwest of Omro, the nearest banking point. Stage daily to Berlin and Omro. Has telephone exchange.

The village has 1 drug store, 1 grocery, 2 hardware and 2 general stores, 1 hotel, 1 boarding house, graded school, Metho-

odist church, a physician, 2 blacksmith and wagon shops, harness shop, canning factory and a creamery. Better hotel facilities are needed.

Steam power is used. Wood and coal are used for fuel.

Wood is obtained from the adjacent country and coal from any of the railway towns. Peas, beans, corn and tomatoes are supplied for canning, and there is plenty of clay, sand and stone. Good glass sand within 2 miles. Help can be secured in the vicinity.

The village is in an excellent farming country, and 2-3 of the land suitable for crop raising is improved. The land is mostly level and free from stone with a small per cent. swampy and sandy.

MENASHA.

Menasha, Winnebago Co. Population, 5,000. An incorporated city located on the C. M. & St. P., the C. & N. W. and the W. C. Rys., and on the Fox river, in the northeast corner of the county, 13 miles from Oshkosh, 93 miles from Milwaukee, 42 miles from Manitowoc and 178 miles from Chicago. American, U. S. and National Express. Western Union and Postal telegraph. Telephone exchange.

The city was first settled in 1848 and incorporated as a city in 1874. Has an abundance of shade trees, a public park of 30 acres near the center of the city, a public library costing \$40,000, a high school building costing \$80,000, 2 ward schools, city hall, electric light and water plant, 7 churches, 2 banks, 2 drug stores, 3 hotels, 4 physicians, 4 lawyers, 50 teachers employed in the schools, fire department, 2 weekly and 1 daily newspaper. The more important manufacturing industries are 5 paper mills, a planing mill, 2 machine shops, 2 knitting factories, pulley factory, excelsior factory, saw-mill, sash, door and blind factory and the largest woodenware manufactory in the world. Lake Winnebago is a favorite summer resort for pleasure seekers. Within the city limits and on the north shore of the lake is a summer resort with a large hotel and fine bathing beach. An electric railway connects the city with Neenah, Appleton and Oshkosh.

Good location for a first-class dry goods or department store.

The water power not utilized is estimated at 3,000 H. P. Coal for fuel is obtained from Green Bay and Manitowoc. Fruit, vegetables and fish can be furnished for canning and the city can be supplied with clay, sand, peat, timber and stone. A large amount of help can be secured in the city.

The land surrounding the city is good for farming and about 60 per cent of it is improved.

NEENAH.

Neenah, Winnebago Co. Population, 6,047. Is an incorporated city and popular summer resort, on the W. C., the C. & N. W., and the C., M. & St. P. Rys., and on the Fox river, at the outlet of Lake Winnebago, in the northern part of the county, 13 miles from Oshkosh, the county seat, 6 miles from Appleton, 78 miles from Milwaukee and 183 miles from Chicago. American, U. S., and National Express companies. Western Union and Postal telegraph. Telephone exchange. First class shipping facilities and passenger service.

An electric railway connects this city with Menasha, Oshkosh and Appleton. Has paved streets well shaded, a beautiful nature park, many elegant residences, substantial business blocks, a \$60,000 city hall, a \$30,000 library, an opera house, 2 banks, 3 drug stores, 14 grocery stores, 3 hardware and 4 dry goods stores, a full complement of shops, 4 hotels, 4 boarding houses, a high and 4 ward schools, churches of the Baptist, Episcopal, Methodist, Presbyterian and Universalist denominations, 9 physicians and 7 lawyers. One weekly and 2 daily newspapers are published. The manufacturing industries comprise paper mills, stove works, brewery, kettle foundry, machine shops, boot and shoe factory, flour mills, sewer pipe and brick works, planing mill, extract factory, pump factory and cigar factories. A first-class hotel is needed.

There is plenty of water power not yet utilized. Fruit and vegetables can be supplied for canning purposes. Clay, sand and stone are the natural products. Plenty of help can be large flour mill. There is one small mil here at present but a large flour mill. There is one small mill here at present but a large mill is needed. A good locaton for a furniture factory, and a clothing factory.

The surrounding country is a first-class farming section and all of the land is improved. 90 per cent. of the land is level and free from stone; soil very rich and productive.

OMRO.

Omro, Winnebago Co. Population, 1,300. An incorporated village located on both sides of the Fox river, a navigable stream, and on the C., M. & St. P. Ry., 10 miles west of Oshkosh, the county seat, 90 miles from Milwaukee and 175 miles from Chicago. United States Express. Western Union telegraph. Telephone. Fair shipping facilities and passenger service.

The village is connected with Oshkosh by electric railway, and by boats on the Fox river in the open season. Has electric

light and power plant, 1 bank, 2 drug stores, 4 grocery, 2 hardware and 2 general stores, 1 hotel, high and graded public schools employing 8 teachers, a manual training school, Baptist, Catholic, Episcopal, Methodist Episcopal and Presbyterian churches, 4 physicians, 1 lawyer, an opera house, city hall, grain elevator, laundry, saw mill, planing mill and feed mill, and two weekly newspapers. A first-class hotel is badly needed.

Steam power is used. Coal and wood are used for fuel. Wood is obtained from the adjacent country and coal from Milwaukee. Fruit and vegetables can be supplied for canning. Clay, sand, stone and timber are the natural products. Plenty of help can be secured in the village. This is a good location for a good grist mill.

The village is surrounded by a fine farming country and 9-10 of the land is improved. The soil is very fertile and the land is nearly all level and free from stone.

OSHKOSH.

Oshkosh, Winnebago Co. Population, 30,575. 131 miles from Milwaukee and 108 miles from Madison. C. & N. W. C.; M. & St. P., and Wis. Central Rys. The Fox river being navigable from Green Bay to Lake Winnebago, on which Oshkosh is situated, gives this city transportation facilities to the great lakes. Electric lines connect the city with Fox river valley cities to the north, Omro on the west and Fond du Lac to the south. Electric street railway. Gas and electric light plants. Waterworks. Telephone system. Western Union and Postal telegraph. American, National, Pacific and United States Express. County seat.

Located at the mouth of the Fox river on Lake Winnebago. Oshkosh has for many years been the center of the Wisconsin lumber industry. The great forests of the state are within easy access of the city and wood working industries have grown rapidly. Oshkosh manufactures more sash, doors and blinds than any other city in the world. In addition to the above industry there are boiler works, shingle and saw mills, and wood working machinery shops, pump factories, and plants for the manufacture of yachts, automobiles, gas engines, furniture, trunks and glass. In 1905 Oshkosh had 135 factories with an aggregate capitalization of \$8,312,335, employing 4,863 wage-earners and having a total product of \$8,796,705. This city is also an important wholesale center and now has wholesale houses selling groceries, paper and notions, boots, shoes and rubber goods, leather and findings, spices, sporting goods and is the distributing point for packing house products.

Clay, sand, stone and timber can be obtained in abundance. There are 2 unoccupied factories, one of 70,000 square feet floor-space formerly used for a furniture factory and a large plant formerly used for the manufacture of grass twine and matting. Additional factory laborers can be secured from the surrounding country. Oshkosh has 55 physicians and 34 lawyers. 130 teachers are employed in the public schools. Three daily and two weekly newspapers are published. A state normal school is located here. The city is an important summer resort and is one of the most popular yachting centers in the northwest. The Oshkosh Board of Trade is a strong civic and commercial organization.

WAUKAU.

Waukau, Winnebago Co. Population, 290. An unincorporated village on the C. & N. W. and W. C. Rys., 12 miles southwest of Oshkosh, the county seat, and 4 miles from Omro, the nearest banking point, 95 miles from Milwaukee and 180 miles from Chicago. United States Express. Western Union telegraph. Telephone. Fair shipping facilities and passenger service.

The village has 1 grocery and 2 general stores, 1 hotel graded school of 2 departments, 1 physician, grain elevator and a coal yard.

Steam power would have to be used here for manufacturing purposes. Coal and wood are used for fuel. Some help can be secured in the village. Good location for small manufacturing industries.

The surrounding country is level and free from stone and all the land suitable for crop raising is improved.

WINNEBAGO.

Winnebago, Winnebago Co. Population, 950. An incorporated village on the C. & N. W. and W. C. Rys., 4 miles north of Oshkosh, the county seat and banking point. American and National Express. Western Union telegraph. Telephone. Good shipping facilities and passenger service.

The village is the location of the State Northern Hospital for the Insane and the County Insane Hospital. Has well shaded streets, electric light plant, electric railway connections, 1 drug store, 1 grocery, 1 hardware store, 1 hotel, 2 boarding houses, graded school employing 2 teachers, 4 physicians, no factories, 1 blacksmith shop.

Better hotel facilities are needed. Coal for fuel is obtained from Oshkosh and Milwaukee. Steam power is used. Fruit,

vegetables and fish can be supplied for canning. Some help can be secured in the village. The village is a good location for any kind of manufacturing industries.

All of the adjoining land is suitable for farming and 90 per cent most any kind of manufacturing industries.

WINNECONNE.

Winneconne, Winnebago Co. Population, 950. An incorporated village and favorite summer resort, located on Wolf river and on the northern division of the C., M. & St. P. Ry., 13 miles northwest of Oshkosh, 105 miles from Milwaukee and 190 miles from Chicago. United States Express. W. U. telegraph. Telephone. Fairly good shipping facilities and passenger service.

The village is well located, has wide streets, plenty of shade trees, a small public park, a bank, 1 drug store, 1 grocery, 2 hardware and 3 general stores, 4 shoe stores, 1 small hotel, 1 boarding house, a good high school employing 12 teachers, Baptist, Catholic, German and Norwegian Lutheran, Methodist and Presbyterian churches, 2 physicians, a number of shops, canning factory, grist mill, gasoline engine factory, wagon shop and a boat factory and a creamery. A weekly newspaper is published. The village is in need of a first-class hotel.

There is a water power on the Wolf river not utilized. Wood is the principal fuel used obtained in the vicinity. Fruit, vegetables, fish and corn are supplied for canning. Clay, sand and stone are the natural products. This is a good location for a box factory and cold storage plant. Plenty of help can be secured here.

The surrounding country is good for farming and is all improved. The soil is a rich black loam and is level and free from stone.

WOOD COUNTY.

Wood county is located in the central part of the state. The area is 785 square miles. The population in 1905 was 30,380, a gain of 4,515 over 1900. Over one fifth of the population is of foreign birth, of which number Germans constitute considerably over one half. In 1905 the farm area was 265,028 acres, of which 97,596 acres were improved land, or less than 20% of the land in the county. The value of these farms in 1905 including improvements was \$8,629,861 as against \$2,691,584 in 1890. The surface is mainly rolling although

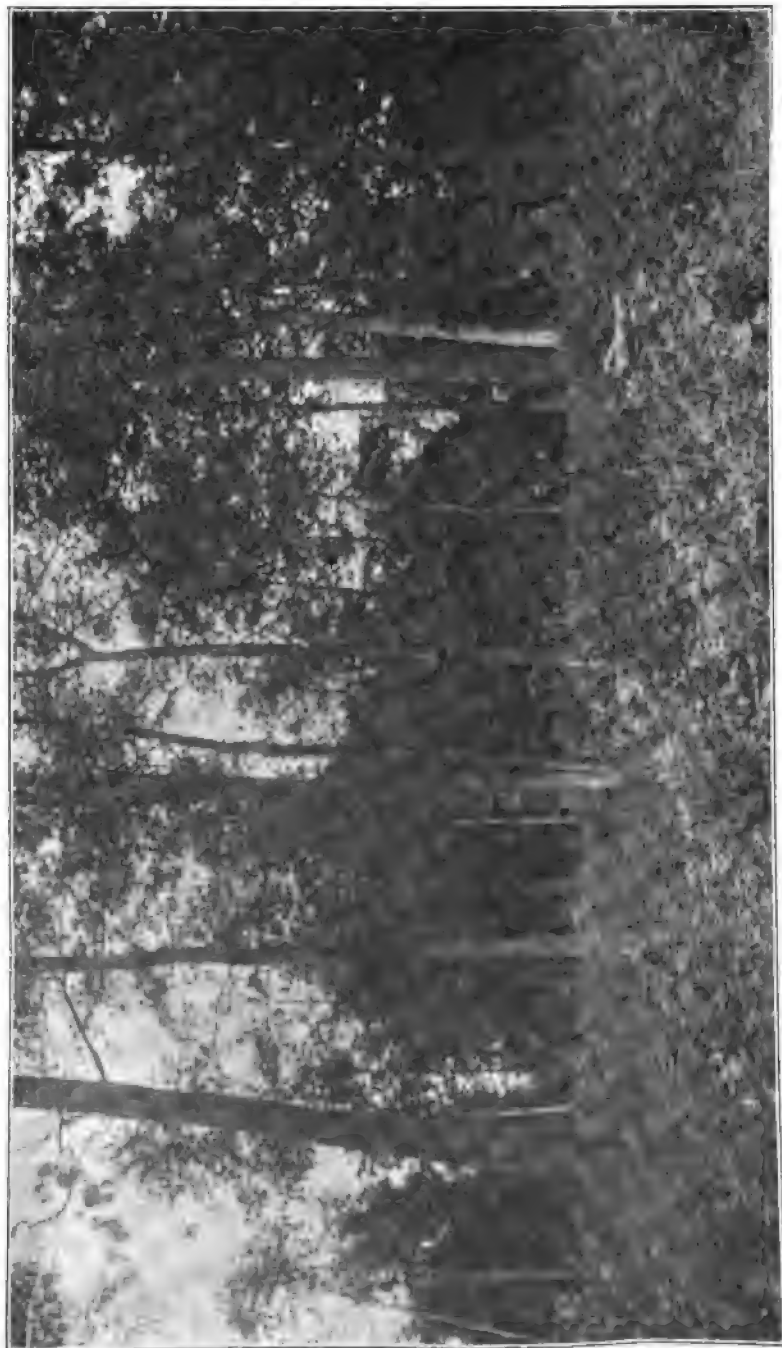
broken in a few places by ridges and hills. Wood county possesses diversified soils. The southern and eastern parts are level and sandy, very broad in area and associated with large marshes and peaty tracts. The soil is coarse and porous and can only be made very productive where there is sufficient clay or where the ground water is near. In general, this condition holds true for a large part of the area, but these soils are better adapted to cultivation along special lines than general farming. Stretching across the south central part of the county to Grand Rapids is a belt of sandy loam containing a few small tracts of sand and clay. These soils are lighter than the loamy clay in the north-western part but heavier than the sandy soils to the east. The surface here is gently rolling with occasional hills of sandstone or knolls of granite. The timber of this region was pine, oak, maple and basswood. North of this sandy loam extending into Marathon, Clark and Taylor counties the soils are a loamy clay with a rolling and well drained surface. Swamps are nowhere found in this area. The forest trees of this region are mainly hardwood and hemlock. This is strong land, very productive and durable, and has been pronounced as the equal of the best soils in the state. The leading crops of this county and the acreage devoted to each in 1890 and 1905 are as follows:

	Acreage in 1890.	Acreage in 1905.
Potatoes	1,560	3,350
Corn	1,841	4,479
Oats	6,245	14,713
Rye	3,023	5,303
Hay	23,842	36,139

Potatoes and rye are the leading export crops. There are 15 cheese factories and 20 creameries in the county. The marshes in the southern part of the county are among the wealthiest of cranberry districts, there being 754 acres devoted to cranberry culture in 1905. The price of unimproved land ranges from \$5 to \$30 per acre and for improved land the prices ranges from \$20 to \$75 per acre according to quality of soil, timber and nearness to markets. Grand Rapids is the county seat. The following table shows the population statistics for the local political divisions in 1905:

WOOD COUNTY.

TOWNS, CITIES AND VILLAGES.	Families.	AGGREGATE POPULATION.			COLOR.			Ex-soldiers and sailors.	Militia.
		Male.	Female.	Total.	White.	Colored.	Indian.		
Arpin	158	42	352	772	772	.....	.....	3	141
Auburndale	177	570	508	1,078	1,078	.....	.....	2	170
Auburndale, village ..	56	137	136	273	273	.....	.....	1	52
Cary	43	102	94	196	196	.....	.....	1	34
Cameron	47	117	113	230	230	.....	.....	1	46
Cranmoor	25	72	69	131	131	.....	.....	1	28
Dexter	111	259	248	507	504	.....	3	6	54
Grand Rapids	181	530	467	987	938	1	.....	8	141
Grand Rapids, city:									
ward 1.....	143	353	352	705	705	.....	.....	.....	.....
ward 2.....	199	406	504	910	910	.....	.....	.....	.....
ward 3.....	135	344	732	676	676	.....	.....	.....	.....
ward 4.....	170	411	414	825	825	.....	.....	.....	.....
ward 5.....	170	457	440	897	897	.....	.....	.....	.....
ward 6.....	144	422	391	813	813	.....	.....	.....	.....
ward 7.....	121	391	311	702	702	.....	.....	.....	.....
ward 8.....	108	341	288	629	629	.....	.....	.....	.....
Total, city.....6,157								59	1,131
Hansen	161	438	367	805	805	.....	.....	3	133
Hiles	28	73	66	139	139	.....	.....	.....	23
Lincoln	228	635	557	1,222	1,222	.....	.....	5	213
Marshfield	154	449	417	866	866	.....	.....	3	133
Marshfield, city:									
ward 1.....	257	667	734	1,401	1,401	.....	.....	.....	.....
ward 2.....	98	249	247	496	495	1	.....	.....	.....
ward 3.....	131	551	547	1,098	1,094	4	.....	.....	.....
ward 4.....	256	594	599	1,193	1,193	.....	.....	.....	.....
ward 5.....	278	575	628	1,203	1,202	1	.....	.....	.....
ward 6.....	124	325	319	644	644	.....	.....	.....	.....
Total, city.....6,035								36	1,104
Milladore	205	568	554	1,122	1,122	.....	.....	2	181
Pittsville, city:									
ward 1.....	170	130	162	292	292	.....	.....	.....	.....
ward 2.....	27	70	72	142	142	.....	.....	.....	.....
ward 3.....	27	51	61	112	112	.....	.....	.....	.....
Total, city.....546								11	76
Port Edwards	159	460	337	857	857	.....	.....	6	133
Nekoosa, village	223	603	496	1,099	1,099	.....	.....	6	223
Port Edwards, village ..	80	194	159	383	383	.....	.....	.....	91
Remington	121	307	263	570	570	.....	.....	6	117
Richfield	151	369	374	743	741	.....	2	14	143
Rock	155	397	345	742	742	.....	.....	7	125
Rudolph	204	574	517	1,091	1,091	.....	.....	1	118
Saratoga	110	272	234	506	506	.....	.....	3	76
Seneca	71	224	204	428	428	.....	.....	1	59
Sherry	148	379	336	715	715	.....	.....	5	122
Sigel	258	826	771	1,597	1,597	.....	.....	.....	223
Wood	113	288	295	583	583	.....	.....	5	115
Total	5,825	15,600	14,780	30,380	30,368	7	5	196	5,224



SCENE AT JEWISH COLONY AT ARPIN, WIS., ON WISCONSIN CENTRAL RAILWAY.

AUBURNDALE.

Auburndale, Wood Co. Population, 275. An incorporated village located on the W. C. Ry., in the northern part of the county, 25 miles northwest of Grand Rapids, the county seat, and 9 miles southeast of Marshfield, the nearest bank location. National Express. Telegraph. Good shipping facilities and passenger service.

Has 3 general stores, a hotel, 2 boarding houses, a graded public school employing 3 teachers, Catholic, Lutheran and Presbyterian churches, a physician, creamery, cheese factory, 2 saw mills and a planning mill.

Steam power is used. Wood is used for fuel obtained from the surrounding country. Vegetables can be supplied for canning. Good location for a pickle salting station. Some help can be secured in the village.

About 60 per cent of the land adjacent to the village, suitable for crop raising is improved. The lands is level, a small per cent stony and some swamps.

BABCOCK.

Babcock, Wood Co. Population, 300. An unincorporated village located on the C., M. & St. P. Ry., in the southwestern part of the county, 17 miles from Grand Rapids, 112 miles from Madison and 168 miles from Milwaukee. United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

Has 2 general stores, 2 hardware stores, 3 hotels, 3 boarding houses, graded public school employing 3 teachers, Catholic, Lutheran and Methodist churches, a physician and lawyer.

There is an undeveloped water power. Wood is used for fuel obtained from the surrounding country. Vegetables can be furnished for canning. Clay, sand, peat and timber are the natural products. Good location for a cheese factory, pickle salting station and grist mill. Plenty of help can be secured here.

A large per cent of the land surrounding the village is marshy which will be drained and utilized for farming purposes. About 50 per cent of the land suitable for crop raising is improved.

DEXTERVILLE.

Dexterville, Wood Co. Population, 250. An unincorporated village, located at the junction of the G. B. & W. and the C., M. & St. P. Rys., and on Yellow river, 14 miles west of Grand Rapids, the county seat and nearest banking point, 28 miles from Marshfield, and 190 miles from Milwaukee. Western and United States Express. Telegraph and telephone facilities. Good shipping facilities and passenger service.

The village is supplied with 1 general store, a hotel and a boarding house, and a public school of 2 departments.

Fruit and vegetables can be supplied for canning. There is an abundance of sand, timber and stone near the village. The timber is small suitable for cord wood, fence posts etc. Good location for a canning factory. A limited amount of help can be secured.

The land surrounding the village is good for farming and about 75 per cent of the land suitable for crop raising is improved. The land is rolling with a sandy clay soil, well adapted to small fruit and vegetables.

GRAND RAPIDS.

Grand Rapids, Wood Co. Population, 6,157. An incorporated city, located on the C., M. & St. P., the C. & N. W., the G. B. & W. and the W. C. Rys., and on the Wisconsin river, in the southeastern part of Wood county of which it is the county seat, 87 miles from Green Bay, 207 miles from St. Paul, 160 miles from Milwaukee and 245 miles from Chicago. American and United States Express. Western Union telegraph. Local telephone exchange. Extra good shipping facilities and passenger service.

This city and Centralia on the opposite side of the river are both consolidated and are connected by foot and wagon bridge and two railroad bridges. Has two fire companies, one on each side of the river, and the entire city is covered with water works system. The city is lighted by electricity, has 3 banking houses, 6 hotels, excellent educational advantages, Catholic, Congregational, Episcopal, Lutheran, Methodist and Moravian churches, free public library, opera house, city hall, and good county buildings. The Wisconsin river furnishes water power for a number of paper mills tributary to the city, and numerous industries are situated within the city limits, comprising a hub and spoke factory, furniture factory, pulp mill, table factory, saw mill, wagon factory, pickle salting station, large flour mills, foundry and machine shop, candy factory etc. Three weekly newspapers are published.

There is a large water power not utilized. Fruit, vegetables, corn, beans and peas can be supplied for canning. Red

clay, kaolin, granite, sand and stone are the natural products. Help can be secured to work the entire year. No idle factories or workshops, and no failures have occurred in the city.

A first class hotel is needed. There are openings here for knitting and woolen mills, veneer works, casket factory, canning factory and fur factory. There is also an opening here for anyone desiring to enter the grocery business.

About 40 per cent of the land adjacent to the city, suitable for crop raising is improved. The land is level and free from stone, the soil is 40 per cent sandy, 10 per cent swamp and the remainder clay.

HEWITT.

Hewitt, Wood Co. Population, 175. A station on the Wisconsin Central Ry., in the northern part of the county, 4 miles from Marshfield, the nearest banking point, and 30 miles from Grand Rapids, the county seat. National Express. Telegraph and telephone. Shipping facilities and passenger service good.

Has 2 general stores, graded public school, Catholic and Lutheran churches, a parochial school, saw mill and shingle mill.

Wood is used for fuel, obtained from the adjacent country. Fruit and vegetables can be supplied for canning. A limited amount of help can be secured in the vicinity. The country surrounding the village is good for farming and about 60% of the farm land is improved. About 10% is stony, 10% swampy and the remainder level and free from stone.

MARSHFIELD.

Marshfield, Wood Co. Population, 6,035. An incorporated city located on the C. & N. W., the C. St. P., M. & O., and W. C. Rys., in the northwestern part of the county, 25 miles from Grand Rapids, the county seat, 182 miles from St. Paul, 155 miles from Ashland, 185 miles from Milwaukee and 270 miles from Chicago. American and National Express. W. U. telegraph. Telephone exchange. The very best shipping facilities and passenger service.

The city has good streets and good walks, fine shade trees in residence portion, a public park, is lighted by electricity, has an excellent system of water works and a well equipped and efficient fire department, 2 banks, a good supply of substantial mercantile establishments, 2 laundries, 5 hotels, good high and ward schools, Catholic, Episcopal, German Evangelical, Lutheran Methodist and Presbyterian churches, Catholic and Lutheran parochial schools, a public library, a hospital and water cure. The manufacturing industries include a box factory, boiler factory, cigar factory, bedding factory, brewery, foundry, stave and

heading mill, flour mill and veneer works. Three weekly newspapers are published.

Steam power will have to be used. Wood is used for fuel, obtained from the surrounding country. Fruit and vegetables can be furnished for canning, and the city can be supplied with clay and timber. The city is a good location for woodworking factories. Plenty of help here.

The city is surrounded by a good farming country and about 2-3 of the land, suitable for crop raising, is improved. The soil is a rich black loam, no swamps or sand, all level and free from stone. Dairying and stock raising are the chief industries. Grain, live stock and manufactured articles constitute the shipments.

MILLADORE.

Milladore, Wood Co. Population, 200. An unincorporated village on the W. C. Ry., 19 miles north of Grand Rapids, the county seat, and 15 miles from Stevens Point, the nearest banking point, 16 miles from Marshfield, and 170 miles from Milwaukee. Telegraph and telephone. Good passenger service and shipping facilities. National Express company.

The village has 2 groceries, 1 hardware and 2 general stores, shoe store and harness shop, 1 hotel, graded school employing 3 teachers, a physician, Catholic and Methodist churches, stave mill, planing mill, saw mill and shingle mill. A good hotel is needed.

Steam power is used. Wood is used for fuel, obtained from the surrounding country. The only raw materials for canning are vegetables. Clay and sand are the natural products, the clay being suitable for manufacturing bricks. The amount of help here is limited.

The adjacent country is all good for farming and about 1-8 of the land, suitable for crop raising, is improved. Cheap fuel and a rapidly developing country makes this a good location for a grist mill.

NEKOOSA.

Nekoosa, Wood Co. Population, 1,100. An incorporated village on the C., M. & St. P., the C. & N. W., and the W. C. Rys., and on the Wisconsin river, 8½ miles south of Grand Rapids, the county seat and banking point, 38 miles from Marshfield, 180 miles from Milwaukee and 265 miles from Chicago. American and United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village was founded by the Nekoosa Paper Co., has a drug store, 5 groceries, 1 hardware and 2 general stores, 2 hotels, 16 boarding houses, graded public schools employing 8 teachers, Catholic, Congregational and Lutheran churches, 1 physician, 1 lawyer, and a paper and pulp mill. Good location

for a pickle salting station. Wood and coal are used for fuel. Wood is obtained from the adjacent country. Vegetables are the only raw materials produced, and sand is the natural product.

Only a small portion of the surrounding country is good for farming. The soil is sandy but produces good crops of vegetables, potatoes and other root crops.

PITTSVILLE.

Pittsville, Wood Co. Population, 600. An incorporated village located on the C. M. & St. P. Ry., and on the Yellow river, 18 miles northwest of Grand Rapids, the county seat, 23 miles from Marshfield, and 196 miles from Milwaukee. United States Express. Telegraph and telephone. Freight facilities and passenger service fair.

The city has graded streets, plenty of water, a bank, drug store, 4 groceries, 2 hardware and 2 general stores, 2 hotels, a boarding house, high school employing 6 teachers, Catholic, Congregational, Lutheran and Methodist churches, furniture store, saw and planing mill, grist mill, cigar factory, cabbage warehouse and a creamery. A weekly newspaper is published. Steam power is used. Wood for fuel is abundant in the surrounding country. Berries and all kinds of vegetables can be furnished for canning and cucumbers for pickling. This is a splendid location for a pickle salting station. Brick and tile clay, sand and building stone, and a limited amount of hardwood timber are the natural products. Good location for a potato warehouse and brick yard. Help can be secured here.

The surrounding country is all good for farming and not over 1-3 of the land is improved. Dairying is fast becoming the chief industry. Farm produce, lumber and wood are shipped.

RUDOLPH.

Rudolph, Wood Co. Population, 350. An unincorporated village on the C. M. & St. P. Ry., in the eastern part of the county, 7 miles northeast of Grand Rapids, the county seat and banking point. United States Express. Western Union telegraph. Good shipping facilities and passenger service.

Has 2 general stores, a hotel, public school, Catholic and Lutheran churches, a physician, a feed mill and a creamery. A bank is needed.

Steam power is used. Wood is used for fuel, obtained from the surrounding country. Plenty of help can be secured in the village and surrounding country.

The adjacent country is good for farming and about 2-3 of the land, suitable for crop raising, is improved. About 65% of the country is level and free from stone.

VESPER.

Vesper, Wood Co. Population, 200. An unincorporated village on the C., M. & St. P., the C. & N. W., and the W. C. Ry., 10 miles northwest of Grand Rapids, the county seat and banking point, 17 miles from Marshfield and 93 miles to Chippewa Falls. American and United States Express. Telegraph and telephone. Good shipping facilities and passenger service.

The village has 1 hardware and 2 general stores, 2 hotels, a boarding house, public school, a physician, a brick and tile factory, a feed and lath mill, saw mill and a creamery. The village needs a barber shop, boot and shoe store, harness shop and a jewelry store.

There is a small water power not utilized estimated at 100-horse power. Wood is used for fuel, obtained from nearby forests. Small fruits and vegetables can be supplied for canning. Brick, clay, sand, building stone and a limited amount of hardwood timber are the natural products. Help can be secured in the village and surrounding country.

About $\frac{1}{4}$ of the land surrounding the village, suitable for crop raising, is improved. The soil is adapted to vegetable growing and a cold storage building for cabbage is needed.

Recapitulation of the Different Industries Best Suited to the Various Cities and Villages of the State.

- Agricultural Implement and Vehicle Factory**—La Crosse, Bangor, Hurley, Wausau, North Freedom.
- Agricultural Implement Dealer**,—Van Dyne.
- Bakery**,—New Lisbon.
- Banks**,—William's Bay, Red Granite, Trempealeau, Rudolph, Star Lake, Birchwood, Lyons, Walworth, Dousman, Newton, North Prairie, Wilson, Footville.
- Barber**,—Germantown, Vesper.
- Basket Factory**,—Park Falls.
- Beet Sugar Factory**,—Barron, Prairie du Chien, Lancaster, Menomonie, Tomah, Sparta, Onalaska, Loyal, Clintonville, Viroqua.
- Blacksmith**,—Bancroft, Blueberry, Wentworth.
- Boarding House**,—Polar.
- Boat and Gasoline Engine Factory**,—Prescott, Woodruff.
- Boot and Shoe Factory**,—Vesper.
- Bottling Works**,—Onalaska.
- Box Factory**,—Downing, Bibon, Tomah, Park Falls, Winneconne, Schofield, Three Lakes, Clintonville, Rib Lake.
- Box Shook Factory**,—Edgar.
- Brick Yard**,—Loganville, Merrimac, Iron-ton, North Freedom, Ablemans, Shell Lake, Rib Lake, Medford, Bonduel, Cross Plains, Black River Falls, Hixon, Cato, Baldwin, Stanley, New Auburn, Dallas, Waupun, Hortonville, Bristol, Lake Mills, Johnson's Creek, Dunbar, Barneveld, Platteville, Wilton, Crandon, Prentice, Elmwood, Bay City, Weyerhauser, Clear Lake, Kewaskum, Pittsville, West Salem, Owen, Norrie.

Brown Factory,—Kendall.

Broom Handles,—Saxon, Heineman, Edgar, Unity.

Button Factory,—Prairie du Chien.

Canning Factory,—Cumberland, Eden, Brandon, Oakfield, Fairwater, Campbellsport, Gratiot, South Wayne, Shulsburg, Belmont, Blanchardville, Ridgeway, Avoca, Lancaster, Potosi, Blue River, Patchgrove, Fennimore, Boscobel, Muscoda, Cedar Falls, Downing, Elk Mound, Ridge Land, Menomonie, Forest Jct., Brillion, Bayfield, Valley Jct., Kendall, Wilton, Tomah, Sparta, Warrens, Park Elm, Maiden Rock, Bay City, Spring Valley, River Falls, Arkansaw, Cedar Lake, Amery, St. Lawrence, Jackson, Wautoma, Plainfield, Independence, Whitehall, Trempealeau, Galesville, Dexterville, Vesper, Grand Rapids, Montello, Oxford, Packwaukee, Westfield, Bangor, West Salem, Saxon, Albany, Brodhead, Granton, Colby, Abbotsford, Thorpe, Neillsville, Wausau, Spencer, Waupun, Brule, Egg Harbor, Bailey's Harbor, Ephraim, Jacksonport, Augusta, Fall Creek, Altoona, Fairchild, Shiocton, Hortonville, Somers, Palmyra, Rome, Wone-woc, Manston, Camp Douglas, Elroy, New Lisbon, Crivitz, Coleman, McMillan, Unity, Grafton, Sobieski, Lena, Suring, Spring Green, Loganville, Merrimac, Iron-ton, North Freedom, Darien, Fontana, Genoa Jct., Lyons, Springfield, Walworth, Whitewater, Clintonville, Iola, Marion, Rib Lake, Medford, Excelsior, Richland Center, Viola, Hillsboro, La Farge, Ontario, Viroqua, Fox Lake, Lomira, Mayville, Neosho, Theresa, Waupun, Wauna-kee, Black River Falls, Merrilan, Berlin, Greenleaf, Wrightstown, Cato, Kiel, Mishicott, Reedsville, Almond, Amherst, Bancroft, Plover, Elkhart, Random Lake, Waldo, Brookfield, Dousman, Hartland, Lannon, Me-nomonie Falls, Merton, North Prairie, Pewaukee, Baldwin, Hammond, New Richmond, Woodville, Edgerton, Footville, Milton Jct., Shopiere, Bloomer, New Auburn, Cadott, Wyocena, Columbus, Mondovi, Fountain City, Nelson, Gay's Mills Wauzeka, Soldiers Grove, Prairie du Chien, Poynette, Lodi, Kilbourn City, Prairie Farm, Chetek, Turtle Lake, Dallas.

Casket Factory,—Grand Rapids.

Cement Block Factory,—Prairie du Chien, Hortonville, Whitefish Bay, Prairie du Sac, Madison.

- Cement Factory**,—New London, Waupaca, Weyauwega, Glen Beulan, North Prairie, Darien, Monroe.
- Chair Factory**,—Merrill.
- Charcoal Establishment**,—Port Wing, Ingram.
- Cheese Box Factory**,—St. Cloud, Dale, Woodland.
- Cheese Factory**,—Randolph, Mt. Sterling, Bridgeport, Cataract, Catawba, Babcock, Amherst, Woodville.
- Cigar Factory**,—New Lisbon, Whitehall, Westby, Milton Jct.
- Clothes Pin Factory**,—Edgar.
- Clothing Factory**,—Neenah.
- Coal, Salt and Lime Dealer**,—Hanover, Helenville, Medina.
- Cold Storage**,—Eden, Menomonie, Forest Jct., Winneconne, Monroe, Baraboo, Alma, Pewaukee.
- Condensed Milk Factory**,—Hortonville, Pleasant Prairie, Palmyra, Darlington, Clear Lake, St. Lawrence, New Glarus, Fontana, Sharon, Manawa, Belleville.
- Creamery**,—Highbridge, Randolph, Mt. Sterling, Bridgeport, Stevenson's Pier, Pleasant Prairie, Casco, Bayfield, Readstown, Brule.
- Department Store**,—Menasha.
- Drug Store**,—Casco, Centuria, West Allis, William's Bay, Dousman, Footville, Cottage Grove, Red Granite.
- Dry Goods Store**,—Cecil.
- Electric Light Plant**,—Trempealeau, Humbird, Grafton, Woodruff, Viola, Lomira, Cambridge, Dartford, Marksau, Wrightstown.
- Elevator**,—Casco.
- Excelsior Factory**,—Wauzeka, Port Wayne, Wabeno, St. Croix, Owen, Edgar, Gillett.
- Feed Mill**,—Westby.
- Feed Store**,—Blueberry.
- Foundry**,—Barron, Cassville, Spring Valley, Cedarburg.
- Foundry and Machine Shop**,—Park Falls, Hurley, Saxon.
- Fur Coats**,—Markesan.
- Fur Factory**,—Grand Rapids.
- Furniture Factory**,—Stanley, Chetek, Solon Springs, Augusta, Necedah, Pound, Peshtigo, Algoma, Bibon, Catawba, Park Falls, Durand, Centuria, Neenah, West Salem, Onalaska, Saxon, Heineman, Merrill, Athens, Richland Center, La Farge, Bryant, Koepenick.
- Furniture Store**,—Green Leaf.
- Gas Plant**,—Waupun.

General Store,—Steuben, Patch Grove, Balsam Lake, Morristonville, Marathon City, Hanover, Red Granite, Stiles Jct., Helenville, Kimberly, Union Center, London, Bancroft, Granville, Eland Jct., Kewaskum, Sullivan.

Glass Factory,—Hixon.

Glove and Mitten Factory,—Bloomer, Brandon, Markesan, Princeton.

Grist and Flouring Mill,—Steuben, Turtle Lake, Egg Harbor, Stevenson's Pier, Hilbert, North Crandon, Prescott, St. Croix, Omro, Babcock, Milladore, Germania, Abbotsford, Sobieski, Rhinelander, Medford, Clyman, Phlox.

Grocery Store,—West Allis, Grand Rapids.

Hardware Store,—Green Leaf, William's Bay, Van Dyne, Blueberry.

Harness and Shoe Shop,—Ridgeland, Germantown, Vesper, Green Leaf.

Hose Factory,—Princeton.

Hotels,—Glidden, Cadott, Wyocena, Columbus, Randolph, Nelson, Gay's Mills, Soldiers Grove, Steuben, Prairie du Chien, Fall River, Poynette, Pardeeville, Fond du Lac, Solon Springs, Poplar, Lake Nebagamon, Bailey's Harbor, Detroit Harbor, Jacksonport, Germantown, Neenah, Eureka, Blair, Trempealeau, Milladore, Neshkoro, Oxford, Packwaukee, West Salem, Onalaska, Humbird, Mosinee, Lena, Woodruff, Darien, Fremont, Royalton, Cazenovia, Beaver Dam, Danville, Theresa, Cambridge, Madison, Greenleaf, Arnott, Stevens Point, Cedar Grove, Elkhart, Duplainville, Waukesha, Deer Park, New Richmond, Somerset, Bristol, Palmyra, Coleman, Darlington, Benton, South Wayne, Mifflin, Platteville, Elkmound, Stockbridge, Hilbert, Norwalk, Warrens, Elmwood, Weyerhauser, Glenflora, Frederick, Luck, St. Croix Falls, Osceola, Amery, Germantown, Mercer, Brule.

Hub and Spoke Factory,—Owen, Rib Lake, Phlox.

Iron Works,—Ashland, Superior.

Jeweler,—Vesper, Green Leaf, Livingston, Cottage Grove.

Knitting Mill,—Grand Rapids, La Farge.

Laundry,—Whitehall, Trempealeau, Rib Lake, Westby, Mt. Horeb, Princeton, Green Leaf, Hartland, Grantsburg.

Lead and Zinc Smelting,—Shullsburg, Platteville.

Lime Kiln,—Waupun, Dale, Bay City, Cross Plains.

Livery Stable,—Germantown.

Live Stock Buyer,—Rockland, Eldorado.

Lumber Yard,—Hanover, Helenville, Rockland, Casco, Walworth, Viola.

Machine Shop,—Barron.

Malt Plant,—Adel.

Manufacturing Industry of any Kind,—Superior, Madison, Milwaukee, South Milwaukee, Cudahy, Janesville, Apollonia, Balsam, Luke, West Bend, Winnebago, Waukau, Ashland, Wausau, La Crosse, Eau Claire, Chippewa Falls, Janesville, Madison, Oshkosh, Green Bay, Marinette, Manitowoc, Sheboygan, Racine, Kenosha, Two Rivers, Fond du Lac, Oconto, Port Washington, Rhineland.

Meat Market,—Oxford, West Allis.

Metalic Zinc Works,—Mineral Point.

Overall Factory,—Prairie du Chien, Lancaster.

Packinghouse,—Durand.

Painter,—Germantown.

Paint Factory,—North Freedom.

Paper and Pulp Mill,—Bibon, Eagle River, Birchwood.

Paper Box Factory,—Gile.

Paper Mill,—Kilbourn City, Chetek, St. Croix, Schofield.

Peat Establishment,—Lake Mills.

Photograph Gallery,—Greenleaf.

Pickle Factory,—Hortonville, Plainfield, Galesville, Neillsmerillan, Eagle, Hartland.

Pickle Salting Station,—Wanakee, Plover, Waldo, Bloomer, Camp Douglas, New Lisbon, Crivitz, Valley Jct., Arkansas, Wautoma, Poysippi, Babcock, Nekoosa, Auburndale, Humbird, Grafton, Ablemans, Fontana, Genoa, Sharon, Springfield, Whitewater, Iola, Readstown, Theresa.

Planing Mill,—Casco, Whitehall, Walworth, Mt. Horeb.

Potato Buyer,—Wautoma, Red Granite.

Potato Warehouse,—Pittsville.

Pottery,—Hollendale, Cedar Falls.

Pulp Mill,—North Crandon, Ingram, Knowlton, Marathon.

Sand Brick Factory,—Camp Douglas.

Sanitarium,—Baraboo.

Sash and Door Factory,—Cassville, St. Croix Falls, Shell Lake, Mt. Horeb.

- Saw Mill**,—Sanborn, Lake Nebagamon, Florence, Hatley.
Shoe Factory,—Bloomer, Chippewa Falls, Lodi, Rice Lake, Augusta, Waterloo, Wonewoc, St. Croix Falls, Bangor, Beaver Dam, Fox Lake, Belleville, North Hudson, Edgerton.
Spindle Factory,—Heineman.
Starch Factory,—Seymour, Mauston, Ridgeland, Tomah, Centuria, Galesville, Packwaukee, Shell Lake, Cazenovia, Beaver Dam, Almond.
Stave and Heading Mill,—Ridgeland, Catawba, Owen.
Stone Crusher,—Pewaukee.
Stone Quarry,—Maiden Rock.
Stump Puller Factory,—Barron.
Sulphuric Acid Factory,—Platteville.
Summer Hotel,—Kilbourn City, Chetek, Cumberland, Ephraim, Lake Geneva, Madison, Oconomowoc.
Summer Resort,—Neshkoro, Heafford.
Tailor,—Cottage Grove, Greenleaf.
Tanbark Extract Establishment,—Shanagolden.
Tank Factory,—Mt. Horeb.
Tannery,—Shanagolden, Oconto.
Tile Factory,—Monroe, Stanley, Dunbar, Platteville, Menomonie, Clear Lake, Kewaskum, Shell Lake, Baldwin.
Tin Smith,—Germantown.
Tobacco and Cigar Factory,—La Farge, Alma, Edgerton.
Tobacco Buyer,—Cottage Grove.
Tobacco Warehouse,—Wauzeka, Prairie du Chien, Lodi, New Lisbon, Fennimore, Muscoda, Blair, Cazenovia, La Farge, Baldwin.
Tool Handle Factory,—Wabeno, Heineman.
Trunk Factory,—
Tub Factory,—Downing.
Veneer Factory,—Wabeno, Catawba, St. Croix, Grand Rapids, Merrill, Rib Lake.
Veterinary Surgeon,—Washburn.
Wagon Factory,—Barron, Cassville, Bibon, Rib Lake.
Wagon Shop,—Merrimac.
Wholesale Grocery,—Sparta.
Wholesale Mercantile Establishment,—Madison.
Woodenware Factory,—Hawthorn, Fairchild, Eau Claire, Pound, Boscobel, Menomonie, Wilton, Florence, Ca-

tawba, Durand, Greenwood, Unity, Three Lakes, North Freedom, La Farge.

Woodworking Establishment,—Ashland, Superior, Glidden, Shanagolden, Butternut, Stanley, Boyd, Chippewa Falls, Haugen, Gay's Mills, Soldiers Grove, Prairie du Chien, Cumberland, Shiocton, Elroy, Pembine, Dunbar, Coleman, Wagoner, Kewaunee, Crandon, Prentice, Aniwa, Birnamwood, Eland, Tigerton, Wittenberg, Boaz, Excelsior, Hillsboro, Elton, De Pere, Ladysmith, Glenflora, Frederick, Luck, Marshfield, Tomahawk, Crivitz, Thorpe, Spencer, McMillan, Athens, Norrie, Oconto, Lena, Suring, Prairie du Sac, Hackley, Eagle River, Birchwood, Spooner, Manawa.

Woolen Mill,—Bloomer, Rice Lake, Gratiot, River Falls, Grand Rapids, West Salem, Manawa.

PLACES HAVING DESIRABLE FACTORY BUILDINGS
AVAILABLE FOR IMMEDIATE OCCUPANCY NOT
GIVEN ELSEWHERE.

Antigo, 2 buildings; Appleton, 3, together with 5 acres of land; Aniwa, 2; Baraboo, 1; Barton, 1; Campbellsport, 2; Eldorado, 1; Edgar, 1; Fond du Lac, 2; Green Bay, 1, with 72 acres of land; Hiles, a plant consisting of several buildings; Jefferson, 2; Janesville, 2; Kaukauna, several buildings located on water power; Kenosha, 3; Lindworm, 1; Lancaster, 1; Montfort, 1; Marinette, a manufacturing plant consisting of several buildings; Mercer, 1; Norrie, 1; New London, 1; Oshkosh, several buildings; Okee, 1 with water power; Racine, 2; Three Lakes, 2; Two Rivers, a vacant plant comprising several buildings; West Bend, 3; Watertown, 2.

Many of these factory buildings are fully equipped with machinery and all the modern conveniences.

WISCONSIN PRIZES DRAWN AT THE LOUISIANA
PURCHASE EXPOSITION HELD AT ST. LOUIS
IN 1904.

At the World's Fair held at St. Louis, Mo., in 1904, Wisconsin drew 20 grand prizes, 126 gold medals, 160 silver medals and 69 bronze medals, total 375 prizes, distributed as follows:

GRAND PRIZES.

Educational exhibits, 2; school apparatus, 2; program clock, 1; enameled cooking and household utensils, 1; ecclesiastical goods, 1; leather, 1; traveling cranes, 1; machine tools, 1; engines and threshing machines, 1; collection of farm and garden seeds, 1; special appliances for teaching dairying, 1; malts, 1; mineral water, 1; fruit, 1; forestry exhibit, 1; horses and live stock, 3—total, 20.

GOLD MEDALS.

School, college and other educational exhibits, 21; lithographic exhibits, 1; artificial limbs, 1; printing machines, 1; fountain pens, 1; dustless floor brush, 1; religious statuary, 1; thermostadt and humidostadt, 1; electric air brake and equipment, 1; alternating current generators, 1; electric equipment and control for cranes, hoists, and trolleys, 1; vehicle lamps, 1; air brake for electric cars, 1; barley, 8; beans, 12; buckwheat, 4; wheat, 18; collection of grains, 2; rye, 7; alfalfa, 1; millet, 1; oats, 7; popcorn, 1; timothy, 2; peas, 3; clover, 4; grasses, 1; potatoes, 1; seeds, 1; butter and cheese, 1; cheddars, 1; counters and tallies for flour mills, 1; bottling machines, 1; malted milk, 1; flour, 1; beer, 2; mineral waters, 2; flax, 1; fruit, 1; orchids, 1; mineral resources, 1; building stones and clays, 1; mine models, 1—total, 126.

SILVER MEDALS.

School and college exhibits, 18; apparatus for determining rate of air flow through soil, 1; apparatus for illustrating instruction in drainage and irrigation, 1; chart illustrating feeding value of corn, 1; American School Board Journal, 1; artificial

blackboards, 1; altar pieces, 1; ecclesiastical statuary, 1; painted glass, 1; lubricators, 1; steam engines, 1; electric apparatus, 1; automobiles, 1; car ferry model, 1; wagons, 2; tobacco, 1; wheat, 12; barley, 8; beans, 4; rye, 4; peas, 2; buckwheat, 4; grasses, 2; grains, etc., 3; forage plants, 1; potatoes, 1; millet, 1; oats, 5; clover, 3; corn, 2; timothy, 1; lentils, 1; speltz, 1; ginseng roots, 1; creamery butter, 32; flax, 1; apples, 7; fruit, 4; plums, 3; cranberries, 1; grapes, 1; collection of insects injurious to plants, 1; lead ore, 1; granite columns, cubes, etc., 2; paving blocks and macadam, 1; mineral waters, 7; electric emery grinders, 1; mineral paints, 1; mineral resources, 1; views of Wisconsin scenery, 1; maps showing resources and water power, 1; cross section of Baraboo iron district, 1; photographs, charts, etc., 1—total, 160.

BRONZE MEDALS.

School exhibits, apparatus, etc., 4; parlor table, 1; church furniture, 2; fuel saver, 1; bed spread, 1; lace constructors, 1; horizontal steam separator, 1; electric apparatus, 1; automobile tires, 1; barley, 7; beans, 3; oats, 11; peas, 5; speltz, 2; emmer, 1; timothy, 1; corn, 4; buckwheat, 3; rye, 4; wheat, 12; grasses and forage plants, 1; popcorn, 1; sugar cane, 1; potatoes, 5; creamery butter, 4; beer, 1; flax, 1; apples, 6; cranberries, 1; crushed quartz and sand paper, 1; pottery, 1; mounted birds, 1—total, 69.

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PART VI.

MANUFACTURING RETURNS, 1904-1905

57—L.



MANUFACTURING RETURNS, 1904-1905.

INTRODUCTION.

The publication of the manufacturing returns for two successive years, after being interrupted by the fire of 1904, is resumed in this report. It is again possible therefore to make comparisons from year to year of the data submitted by a large proportion of the manufacturing establishments of the state, and to deduce therefrom reasonably accurate conclusions regarding the general trend of industrial conditions within the state, such as increase or decrease in the capital invested or in the wages paid in a particular industry, in the number of days workmen were given employment, in the number of male and of female employees, in the hours of labor, etc.

Effort has been made to present the greatest possible number of facts of interest relating to each industry. To this end a large number of tables has been prepared, making it possible to examine the data offered from many different points of view. This becomes clear from an examination of the plan of presenting the material.

Each of the 51 larger industries is first taken up separately, the statistics pertaining to the industry being arranged in eight tables. The data for the two years are always for identical establishments. Following the tables are appended a few remarks intended to throw further light upon the facts set forth in the tables themselves. Next follow a few tables in which the data relating to the entire 51 industries are summarized. Twelve "Minor Industries" are next treated similarly, but much more briefly than the 51 leading industries. Finally a few tables are presented which are concerned with certain establishments that reported for 1905, but not for 1904, and for

this reason could not be included among the establishments considered in the first tables.

Table I, designated as Management and Operation, contains statistics relating to the control of the various manufacturing plants engaged in the particular industry. The number of private firms and of corporations is given, as also the number of male and female partners in the former, and of male and female stockholders in the latter.—It should be stated that the number of stockholders of the various corporations is probably much greater in the case of several industries than the number presented in the table. This is due to the fact that several establishments declared their inability to ascertain the number of persons holding their stock—The smallest and the greatest number of persons employed in the industry in any month of each year, and the average number per month, together with the average number of days the plants were in operation, complete the table. Each of the tables is so arranged as readily to permit of comparisons between the data of 1904 and those of 1905.

Table II, Investment, shows the amount of capital invested in 1904 and in 1905, in land, buildings and fixtures, machinery, etc., and the cash capital employed; also the amount and percentage of increase or of decrease of each of these items.

Table III A presents the Value of Materials and Labor Employed, and of Product. Here are included the value of the raw and other material used, the wages and salaries paid, the amount realized as profit or devoted in part to minor expenses, and the sum total of the foregoing items, which total represents the value of the goods made and the work done each year. The amount and percentage of increase or decrease of each item is also shown.

Table III B is an Analysis of Table III A. In this table, the value of the goods made and the work done is considered the "gross product." From this is subtracted the value of the raw and other material used, leaving the "industry product." Of this amount, the sum paid as wages represents labor's direct share of the industry product. The proportion which this sum bears to the industry product is ascertained for each industry. By subtracting "Labor's share" from the industry product a sum is found which represents the "profit and minor expense fund." It should be noted that the so-called "minor expenses"

may be so considerable as to reduce the actual profit to a very low figure. Under this head are included such expenses as insurance, taxes, rentals, interest, heat, light, and power. There has been no intention on the part of the bureau to ascertain the exact or approximate profit in any industry. In this connection only the amount of the profit and minor expense fund, and the percentage which it bears to the industry product, are presented.

Table IV, Average Capital, etc., per Employee, gives the amount of capital invested and the average product, to each person employed, and the average yearly earnings of each. These sums are obtained by dividing respectively the total capital invested in the industry, the gross product, and the total wages, by the average number of persons employed each year. The amount and the percentage of increase or decrease for 1905 are also indicated.

Table V, Range of Employment and of Unemployment, presents first the number of persons employed in the industry each month of the two years, and the average number for each year. Then—for each year separately—considering the month in which the largest number of workmen were employed as the period of full employment, and the number employed in that month as 100%, the percentage which the number employed in each of the other months of the same year bears to this number is ascertained as the “percentage of employment” for these months. The difference between these percentages and 100% represents the “percentage of unemployment” for each of the months. The range of employment for any year is, then, from the lowest percentage of employment in any month of that year to 100%. In like manner, the range of unemployment for a year is from zero to the highest percentage of unemployment in that year. This percentage of unemployment must not however be interpreted to mean that the persons represented as unemployed for any month were actually idle. It means only that such a per cent. of the number which at one period of the year were employed in that industry, were not employed in it for that particular month. They may of course have had employment in some other industry. This is especially probable inasmuch as the dull season for various industries comes at very different times of the year, so that while one is finding it

advisable to let out some of its men, others are seeking additional help. The table is obviously of some value in showing the general course of business of an industry, as well as the varying opportunity of securing work in it at different seasons of the year.

Table VI, Occupations and Wages of Employees, is one of the most comprehensive presented in this report. Here the employees are classified according to occupation, female employees being so designated. For each occupation there is given the number of persons employed each year, the average hours of work per day, the average wages per day and per hour, and the percentage of increase or decrease in wages per day in 1905. Many important comparisons are thus made possible. For example, a question always of great interest is that regarding the extent of employment of female labor. From this table can be determined the various occupations at which women are now working; their hours of work as compared with those of men; the degree of skill usually required of the female employee; also which industries employ women for the more important and more technical portions of the work, as against those in which women are engaged in the lighter and only incidental occupations.

It should be noted that a different classification of employees in 1905, from that made in 1904, may cause an apparent increase or decrease in the wages of one of the occupations so affected. This is caused by a firm's reporting some of its employees under a different occupation from that reported the preceding year. The mistake is made most frequently in connection with the term Laborers. Thus, in some cases a firm has reported half of its employees as laborers one year, and the next year has given each employee his proper designation. It has of course been our intention to have this term restricted to the unskilled general laborer, as opposed to the workman having a definite occupation requiring technical skill.

It should be observed also that a decrease in wages per day for 1905 is sometimes accompanied by an increase in the wages per hour. The change in hours of work and in wages per hour should therefore be noted in each case in connection with the change in wages per day.

In Table VII, Classification of Daily Wages, employees are

grouped according to the daily wages received. Beginning with "33 cents or less per day,"—the equivalent of "less than \$2.00 per week,"—as the first class, the classes proceed, each class including wages either eight or nine cents per day higher than those of the preceding class—equivalent to a difference of 50 cents per week. Thus, the second class is "from 34 cents to 41 cents per day," equivalent approximately to "from \$2.00 to \$2.49 per week"; the third class, "from 42 cents to 49 cents per day," or from \$2.50 to \$2.99 per week. The average wages per day received by male, female, and total employees respectively, in each class are also given. These average wages have been computed not for purposes of comparison, but to show definitely the average wages received by those employees who have been included in each class. This word of caution seems necessary, since incorrect conclusions would be likely to follow from a comparison of these averages for any particular class, for the reason that employees are not necessarily included in the same class in successive years. A comparison of the total averages however affords results of great interest.

In regard to the tables as a whole it should be said that an effort has been made to word these so simply as to make clear the meaning of each with but little further explanation. In the observations following the set of tables for each industry there will therefore be omitted many of the conclusions easily deduced from the tables. Attention will be called only to those facts in the tables deserving of especial notice, or those likely to be misconstrued.

TABLES.

(For explanation of the tables see the Introduction.)

1. AGRICULTURAL IMPLEMENTS—26 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904	1905	Amount.	Per cent.
Number of private firms.....	6	6	—	—
Number of male partners.....	8	8	—	—
Number of female partners.....	—	1	+ 1	—
Total number of partners.....	8	9	+ 1	12.50
Number of corporations.....	20	20	—	—
Number of male stockholders.....	177	169	— 8	4.52
Number of female stockholders.....	56	57	+ 1	1.79
Total number of stockholders.....	233	226	— 7	3.00
Total numbers of partners and stockholders.....	241	235	— 6	2.49
Smallest number of persons employed.....	2319	2798	+ 479	20.66
Greatest number of persons employed.....	3174	3834	+ 660	20.79
Average number of persons employed.....	2694	3135	+ 441	16.37
Average days in operation.....	283	272	— 11	3.89

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land.....	\$906,287 42	\$980,650 95	+ \$54,363 53	6.00
Building and fixtures.....	1,713,245 12	1,570,288 58	— 237,043 46	15.00
Machinery, etc.....	1,718,980 80	1,791,479 15	+ 77,498 35	4.52
Cash and other capital.....	13,127,969 29	12,969,987 45	— 157,981 84	1.20
Total.....	\$17,461,482 63	\$17,692,406 13	+ \$230,923 50	1.32

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used.....	\$2,839,785 30	\$2,945,578 09	+ \$105,592 79	3.72
Other material used.....	323,058 29	359,698 18	+ 36,639 89	11.31
Wages.....	1,464,081 53	1,805,713 15	+ 342,631 62	23.42
Salaries.....	916,906 63	1,020,796 20	+ 103,889 57	11.33
Profit and minor expenses.....	3,725,000 56	4,418,498 02	+ 693,497 46	18.43
Goods made and work done.....	\$9,267,832 31	\$10,515,069 34	+ \$1,277,237 03	13.75

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product).....	\$9,267,832 31	\$10,445,069 34
Value of stock used and other material consumed in production.....	3,162,843 59	3,205,066 97
Industry product (gross product less value of stock and material).....	6,104,988 72	7,240,002 37
Wages and salaries (Labor's direct share of product).....	2,379,988 10	2,826,509 35
Profit and minor expense fund (industry product less wages).....	3,725,000 56	4,413,493 02
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	38.98	39.04
Percentage of industry product devoted to profit and minor expenses.....	61.02	60.96

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$6,481 62	\$5,643 51	—4838 11	12.93
Average product per employee.....	3,440 18	3,331 76	—108 42	3.15
Average yearly earnings.....	543 09	575 99	+ 32 90	6.06

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January.....	2,591	2,708	81.63	72.98	18.37	27.02
February.....	2,963	2,831	92.50	73.92	7.00	26.08
March.....	3,174	3,010	100.—	78.51	0.00	21.49
April.....	3,025	2,961	95.31	77.23	4.69	22.77
May.....	2,784	2,832	87.71	74.47	12.29	25.53
June.....	2,552	3,131	80.40	81.71	19.60	18.26
July.....	2,494	3,017	78.58	79.47	21.42	20.53
August.....	2,630	3,274	81.14	85.45	16.86	14.55
September.....	2,674	3,608	81.25	94.99	15.75	5.11
October.....	2,319	3,008	73.06	80.80	26.94	19.20
November.....	2,452	3,606	77.25	95.26	22.75	4.64
December.....	2,688	3,831	81.69	100.—	15.31	0.00
Average.....	2,634	3,185	81.88	83.07	15.12	16.93

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904.	1905.	1901.	1905.	1904.	1905.	Amt.	Per ct.	
Apprentices.....	108	91	10.	10.	\$1.074	\$1.301	\$.107	\$.13	+	227	21.14
Assemblers.....	33	26	10.	10.	1.626	1.718	.163	.172	+	.092	5.66
Blacksmiths.....	96	91	10.	10.	2.105	2.215	.211	.222	+	.11	5.23
Blacksmiths' helpers.....	13	18	10.	10.	1.588	1.492	.159	.149	—	0.6	6.05
Boiler makers.....	5	5	10.	10.	3.05	3.15	.305	.315	+	.10	3.29
Bookkeepers.....	1	2	10.	10.	1.50	1.75	.15	.175	+	.25	16.67
Bookkeepers, female.....		1	10.	10.		.75		.075			
Boys.....	17	6	10.	10.	.859	.875	.086	.088	+	.16	18.68
Bundlers.....	8	4	10.	10.	1.531	1.538	.153	.154	+	.007	0.46
Carpenters.....	42	43	10.	10.	2.09	2.188	.209	.219	+	.098	4.89
Carpenters' helpers.....	3	4	10.	10.	1.417	1.50	.142	.15	+	.083	5.86
Chippers.....		21	10.	10.		2.40		.246			
Clerks, female.....	14	21	10.	10.	1.00	1.60	.10	.19		.00	
Core makers.....	51	70	10.	10.	1.853	2.261	.185	.226	+	.408	22.20
Cupola tenders.....	6	5	10.	10.	1.862	2.11	.186	.211	+	.248	13.32
Draftsmen.....	7	6	10.	10.	1.963	1.75	.196	.175	—	2.13	10.85
Drillers.....	3	2	10.	10.	1.25	1.60	.125	.16	—	.25	20.00
Electricians.....		3	10.	10.		2.583		.258			
Elevator men.....		5	10.	10.		1.37		.137			
Engineers.....	7	7	10.	10.	2.064	2.01	.206	.20	—	.054	2.62
Erectors.....	11	79	10.	10.	1.682	2.296	.168	.231	+	6.14	36.50
Firemen.....	2	9	10.	10.	1.565	1.756	.157	.176	+	.191	12.20
Foremen.....	9	9	10.	10.	3.15	2.951	.295	.293	—	.199	6.32
Foundrymen.....	41	53	10.	10.	1.836	1.533	.184	.153	—	.303	16.50
Foundrymen's helpers.....	2	2	10.	10.	1.30	1.51	.13	.15			
Galvanizers.....	1	1	10.	10.	2.59	2.50	.25	.25			
Grinders.....	30	16	10.	10.	1.509	1.561	.151	.156	+	.055	3.64
Helpers.....	147	239	10.	10.	1.548	1.543	.155	.154	—	0.5	.32
Hoop makers.....	1	1	10.	10.	1.75		.175				
Inspectors.....	18	3	10.	10.	2.581	2.03	.258	.20	—	.581	22.51
Laborers.....	751	837	10.	10.	1.567	1.563	.157	.157	—	.001	.06
Loaders.....	7		10.	10.	1.34		.13				
Machine operators.....	411	589	10.	10.	1.772	2.215	.177	.221	+	.443	25.00
Machine optrs.' helpers.....	16	11	10.	10.	1.416	2.59	.142	.259	+	1.174	82.91
Machinists.....	318	295	10.	10.	2.252	2.309	.225	.231	+	.057	2.53
Machinists' helpers.....	6		10.	10.	1.50		.15				
Managers.....	1	1	10.	10.	4.01	4.00	.40	.40			
Melters.....	1		10.	10.	1.75		.175				
Millwrights.....	1	5	10.	10.	2.25	2.10	.225	.21	—	.15	6.67
Millwrights' helpers.....	1		10.	10.	1.61		.16				
Molders.....	295	277	10.	10.	2.561	2.654	.256	.265	+	.09	3.51
Molders' helpers.....	34	4	10.	10.	1.676	1.063	.168	.103	—	.613	36.57
Packers.....		1	10.	10.		1.90		.19			
Painters.....	126	152	10.	10.	2.016	2.107	.202	.211	+	.091	4.51
Painters' helpers.....	3	2	10.	10.	1.58	1.50	.158	.15	—	.08	5.06
Pattern makers.....	27	37	10.	10.	2.752	2.886	.275	.289	+	.134	4.87
Pipemen.....		21	10.	10.		1.719		.172			
Pipe fitters.....	2		10.	10.	2.00		.20				
Plow makers.....	1	10	10.	10.	1.75	2.026	.175	.203	+	.276	15.77
Polishers.....		2	10.	10.		2.215		.222			
Printers.....	9	8	10.	10.	1.39	1.40	.139	.14	+	.01	.72
Punchers.....	6	14	10.	10.	1.585	1.524	.159	.152	—	.061	3.22
Repairers.....		2	10.	10.		1.625		.163			
Riveters.....	2		10.	10.	1.50		.15				
Shippers.....	25	31	10.	10.	1.733	1.631	.173	.163	—	.102	5.92
Shopmen.....	225	178	10.	10.	2.001	2.143	.20	.214	+	.142	7.01
Shopmen's helpers.....	1	1	10.	10.	.50	1.25	.05	.125	+	.75	150.00
Steam fitters.....		8	10.	10.		2.25		.225			
Tank makers.....		78	10.	10.		2.193		.219			
Teamsters.....	14	7	10.14	10.	1.776	2.41	.175	.241	+	.634	35.70
Testers.....		82	10.	10.		2.057		.206			
Tiners.....	1	3	10.	10.	2.50	2.383	.25	.238	—	.117	4.68
Tire setters.....	2		10.	10.	1.38		.138				
Truckers.....		10	10.	10.		1.75		.175			
Watchmen.....	24	33	11.96	12.33	1.747	1.805	.146	.146	+	.058	3.32
Wheel makers.....	3		10.	10.	2.017		.202				
Wood workers.....	219	171	10.	10.	1.65	1.812	.165	.181	+	.162	9.82
Total and average.....	3,212	3,685	10.01	10.02	\$1.844	\$1.972	\$.184	\$.197	+	.128	6.94

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58...	27	26	.....	.....	27	26	\$.509	\$.50	.....	.....	\$.509	\$.50
.59 to .66...	11	7	.....	.....	11	7	.623	.607	.....	.....	.623	.627
.67 to .74...	5	1	.....	.....	5	1	.688	.67	.....	.....	.688	.67
.75 to .83...	48	52	.....	1	48	53	.761	.764	.....	.75	.761	.764
.84 to .91...	7	13	.....	.....	7	13	.897	.892	.....	.....	.897	.892
.92 to .99...	1	.....	.....	.....	1	.....	.95	.....	.....	.....	.95	.....
1.00 to 1.08...	73	58	14	21	87	79	1.001	1.001	\$1.00	\$1.00	1.001	1.001
1.09 to 1.16...	69	29	.....	.....	69	29	1.13	1.127	.....	.....	1.13	1.127
1.17 to 1.24...	5	3	.....	.....	5	3	1.20	1.20	.....	.....	1.20	1.20
1.25 to 1.33...	196	203	.....	.....	196	203	1.257	1.251	.....	.....	1.257	1.251
1.34 to 1.41...	139	79	.....	.....	139	79	1.381	1.375	.....	.....	1.381	1.375
1.42 to 1.49...	21	1	.....	.....	21	1	1.45	1.47	.....	.....	1.45	1.47
1.50 to 1.58...	462	515	.....	.....	462	515	1.501	1.50	.....	.....	1.501	1.50
1.59 to 1.66...	370	374	.....	.....	370	374	1.636	1.627	.....	.....	1.636	1.627
1.67 to 1.74...	38	22	.....	.....	38	22	1.688	1.684	.....	.....	1.688	1.684
1.75 to 1.83...	444	534	.....	.....	444	534	1.753	1.751	.....	.....	1.753	1.751
1.84 to 1.91...	44	30	.....	.....	44	30	1.875	1.873	.....	.....	1.875	1.873
1.92 to 1.99...	18	4	.....	.....	18	4	1.945	1.92	.....	.....	1.945	1.92
2.00 to 2.08...	380	421	.....	.....	380	421	2.002	2.001	.....	.....	2.002	2.001
2.09 to 2.16...	36	17	.....	.....	36	17	2.125	2.141	.....	.....	2.125	2.141
2.17 to 2.24...	6	72	.....	.....	6	72	2.195	2.17	.....	.....	2.195	2.17
2.25 to 2.33...	192	198	.....	.....	192	198	2.257	2.225	.....	.....	2.257	2.225
2.34 to 2.41...	17	17	.....	.....	17	17	2.378	2.39	.....	.....	2.378	2.39
2.42 to 2.49...	16	5	.....	.....	16	5	2.438	2.46	.....	.....	2.438	2.46
2.50 to 2.58...	202	283	.....	.....	202	283	2.501	2.50	.....	.....	2.501	2.50
2.59 to 2.66...	44	64	.....	.....	44	64	2.644	2.62	.....	.....	2.644	2.62
2.67 to 2.74...	13	42	.....	.....	13	42	2.70	2.681	.....	.....	2.70	2.681
2.75 to 2.83...	68	140	.....	.....	68	140	2.757	2.767	.....	.....	2.757	2.767
2.84 to 2.91...	121	194	.....	.....	121	194	2.853	2.897	.....	.....	2.853	2.897
2.92 to 2.99...	6	42	.....	.....	6	42	2.95	2.97	.....	.....	2.95	2.97
3.00 to 3.8...	63	153	.....	.....	63	152	3.001	3.00	.....	.....	3.001	3.00
3.09 to 3.16...	7	5	.....	.....	7	5	3.121	3.11	.....	.....	3.121	3.11
3.17 to 3.24...	3	4	.....	.....	3	4	3.19	3.192	.....	.....	3.19	3.192
3.25 to 3.33...	7	13	.....	.....	7	13	3.276	3.273	.....	.....	3.276	3.273
3.34 to 3.41...	4	2	.....	.....	4	2	3.388	3.40	.....	.....	3.388	3.40
3.42 to 3.49...	1	.....	.....	.....	1	.....	3.45	.....	.....	.....	3.45	.....
3.50 to 3.58...	21	23	.....	.....	21	23	3.502	3.502	.....	.....	3.502	3.502
3.59 to 3.66...	2	3	.....	.....	2	3	3.625	3.60	.....	.....	3.625	3.60
3.67 to 3.74...	1	.....	.....	.....	1	.....	3.70	.....	.....	.....	3.70	.....
3.75 to 3.83...	.....	23	.....	.....	.....	23	.....	3.775	.....	.....	.....	3.775
3.84 to 3.91...	1	1	.....	.....	1	1	3.85	3.85	.....	.....	3.85	3.85
4.00 to 4.08...	5	1	.....	.....	5	1	4.01	4.00	.....	.....	4.01	4.00
4.09 to 4.16...	1	.....	.....	.....	1	.....	4.10	.....	.....	.....	4.10	.....
4.34 to 4.41...	1	.....	.....	.....	1	.....	4.38	.....	.....	.....	4.38	.....
4.42 to 4.49...	1	.....	.....	.....	1	.....	4.45	.....	.....	.....	4.45	.....
4.59 to 4.66...	1	.....	.....	.....	1	.....	4.65	.....	.....	.....	4.65	.....
Total and av...	3,198	3,673	14	22	3,212	3,695	\$1.848	\$1.978	\$1.00	\$.989	\$1.844	\$1.972

Remarks.—The manufacture of agricultural implements has for years been one of the most important industries of the state. The census of 1900 gave Wisconsin fifth rank among the states in the value of the product of this industry. A slight increase in the capital invested, and a large increase in the materials used, the wages paid, and the output, give evidence that the industry continued to enjoy growth during the period covered by this report. The 13 per cent. less capital invested per em-

ployee is to be explained by the 16 per cent. increase in the number of the latter. So also the 3 per cent. less average product per employee is accounted for by the fact that the average number of days of operation was nearly 4 per cent. less in 1905. Women were employed only in the minor occupations of the industry—those of bookkeepers and clerks. The average wages of female help in 1905 were slightly lower than in 1904, owing to the employment in 1905 of one person at a lower wage than that received by any of the employees in the preceding year. It is of course only when very few persons are employed that the wages of one employee will affect perceptibly the average wages of all. The average daily wages of all employees increased nearly 7 per cent., and the average yearly earnings over 6 per cent. The difference is due chiefly to the 4 per cent. fewer days of operation in 1905, already mentioned. The proportion of the industry product paid in wages, about 39 per cent., as compared with the proportion devoted to the profit and minor expense fund, 61 per cent., is considerably lower than the average.

2. ARTISANS' TOOLS—5 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms	5	5	.....	.....
Number of male partners	9	8	— 1	11.11
Number of female partners .....	.....	.....	.....	.....
Total number of partners	9	8	— 1	11.11
Number of corporations .....	.....	.....	.....	.....
Number of male stockholders .....	.....	.....	.....	.....
Number of female stockholders .....	.....	.....	.....	.....
Total number of stockholders .....	.....	.....	.....	.....
Total number of partners and stockholders	9	8	— 1	11.11
Smallest number of persons employed	74	81	+ 7	9.46
Greatest number of persons employed	78	87	+ 9	11.54
Average number of persons employed	75	84	+ 9	12.00
Average days in operation	314	302	— 12	3.82

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905,	
	1904.	1905.	Amount.	Per cent
Land	\$20,400 00	\$21,450 00	+\$1,050 00	5.15
Buildings and fixtures	16,739 80	22,200 00	+ 5,410 20	32.22
Machinery, etc.	32,457 53	34,532 58	+ 2,075 55	6.37
Cash and other capital	25,227 67	20,763 58	— 4,464 09	17.70
Total	\$94,875 00	\$98,946 46	+\$4,071 46	4.29

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$31,105 66	\$33,150 00	+\$2,044 34	6.57
Other material used	3,965 00	6,861 00	+ 3,186 00	81.68
Wages	84,538 65	87,425 28	+ 3,416 63	10.05
Salaries	20,119 00	21,610 00	+ 1,461 00	7.41
Profit and minor expenses ..	27,601 11	28,612 72	+ 1,011 61	3.67
Goods made and work done..	116,539 42	127,659 00	+11,129 58	9.55

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$118,529 42	\$127,659 00
Value of stock used and other material consumed in production	34,800 06	40,011 00
Industry product (gross production less value of stock and material)	81,728 76	87,648 00
Wages and salaries (Labor's direct share of product)	84,127 65	86,035 28
Profit and minor expense fund (Industry product less wages)	27,601 11	28,612 72
Percentage of industry product paid in wages	Per cent. 66.23	Per cent. 67.35
Percentage of industry product devoted to profit and minor expenses	33.77	32.65

TABLE IV—AVERAGE CAPITAL ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount	Per cent.
Average capital per employee	\$1,265 00	\$1,177 93	—\$87 07	6.88
Average product per employee	1,553 73	1,519 75	— 33 98	2.19
Average yearly earnings	453 45	445 54	— 7 91	1.74

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	76	82	97.44	92.13	2.56	7.87
February	76	85	97.44	95.51	2.56	4.49
March	76	85	97.44	95.51	2.56	4.49
April	75	89	96.16	100.—	3.84	0.00
May	75	86	96.16	96.63	3.84	3.37
June	78	87	100.—	97.75	0.00	2.25
July	76	85	97.44	95.51	2.56	4.49
August	75	85	96.16	95.51	3.84	4.49
September	75	87	96.16	97.75	3.84	2.25
October	75	83	96.16	93.26	3.84	6.74
November	75	89	96.16	92.13	3.84	7.87
December	74	81	94.87	91.01	5.13	8.99
Average	75	84	96.16	94.38	3.84	5.62

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	10	5	9.10	10.	\$1.13	\$.75	\$.124	\$.075	— .38	33.63
Blacksmiths	1	2	9.	10.	3.00	2.625	.333	.263	— .375	12.50
File cutters	23	25	10.	10.	1.746	1.76	.176	.176	+ .014	.80
Grinders	11	12	10.	10.	1.795	1.75	.179	.175	— .045	2.51
Helpers	13	17	9.77	9.97	1.602	.906	.173	.091	— .788	46.45
Machinists	20	20	9.	10.	2.26	2.606	.26	.26	+ .356	15.83
Total and av....	78	87	9.577	9.994	\$1.81	\$1.806	\$.189	\$.181	— .004	.22

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages (inclusive.)	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.75 to \$0.83..	.....	19	.....	.....	.....	19	.....	\$0.75	.....	.....	.....	\$0.75
.84 to .91..	8	.....	.....	.....	8	.....	\$0.90	.....	.....	.....	\$0.90	.....
1.25 to 1.33..	10	12	.....	.....	10	12	1.25	1.25	.....	.....	1.25	1.25
1.50 to 1.58..	4	1	.....	.....	4	1	1.50	1.30	.....	.....	1.50	1.50
1.59 to 1.66..	1	1	.....	.....	1	1	1.66	1.65	.....	.....	1.66	1.65
1.75 to 1.83..	20	13	.....	.....	20	13	1.75	1.75	.....	.....	1.75	1.75
2.00 to 2.08..	13	1	.....	.....	13	1	2.008	2.00	.....	.....	2.008	2.00
2.25 to 2.33..	11	15	.....	.....	11	15	2.25	2.25	.....	.....	2.25	2.25
2.50 to 2.58..	10	15	.....	.....	10	15	2.50	2.50	.....	.....	2.50	2.50
2.75 to 2.83..	.....	6	.....	.....	.....	6	.....	2.75	.....	.....	.....	2.75
3.00 to 3.08..	1	3	.....	.....	1	3	3.00	3.00	.....	.....	3.00	3.00
3.25 to 3.33..	.....	1	.....	.....	.....	1	.....	3.25	.....	.....	.....	3.25
Total ...	78	87	.....	.....	78	87	\$1.81	\$1.806	.....	.....	\$1.81	\$1.806

Remarks.—Somewhat less than a majority of the firms engaged in this industry reported for 1904 and 1905. The statistics are therefore less certain to show the actual progress of the industry. Employment was very uniform throughout each year, the maximum of unemployment for any month being only 5 per cent. in 1904, and 9 per cent. in 1905. There was a high minimum and a low maximum of wages received, the average wages being high as compared with those in other industries. The average daily wages for 1905 were slightly lower, owing to the lower wages paid to those just beginning work in the industry—the apprentices and helpers. The decrease of 2 per cent. in the average yearly earnings is to be explained by the decrease of 4 per cent. in the number of days of operation, as is also the 2 per cent. decrease in the average yearly product of each employee. A comparatively large proportion of the industry product was paid in wages each year—66 per cent. There are few distinct occupations in this industry, all workmen being in reality machinists. No female help was employed. The industry exhibits considerable progress for the period covered, as is evidenced by the increase of 4 per cent. in the capital invested, of 12 per cent. in the number of persons employed, of 15 per cent. in materials used, and of 10 per cent. in the gross product. The 32 per cent. increase in the amount invested in buildings points toward a greater permanency of the investment of capital in this industry.

3. BAKERIES—27 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	24	24	.....	.....
Number of male partners	28	28	.....	.....
Number of female partners	3	3	.....	.....
Total number of partners	31	31	.....	.....
Number of corporations	3	3	.....	.....
Number of male stockholders	10	10	.....	.....
Number of female stockholders	2	2	.....	.....
Total number of stockholders	12	12	.....	.....
Total number of partners and stockholders..	43	43	.....	.....
Smallest number of persons employed	299	299	— 10	3.34
Greatest number of persons employed	329	335	+ 6	1.82
Average number of persons employed	311	310	— 1	0.32
Average days in operation	467	467	.....	.....

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$61,700 00	\$51,700 00		
Building and fixtures	134,787 41	135,887 41	+ \$50 00	0.37
Machinery, etc.	93,757 91	97,445 28	+ 867 87	0.71
Cash and other capital	83,499 27	89,020 00	+ 3,150 82	3.64
Total	\$379,714 59	\$384,052 78	+ \$4,338 19	1.14

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCTS.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Per cent
Raw material used	\$490,288 26	\$486,423 11	— \$3,855 15	0.79
Other material used	80,010 70	78,954 84	— 1,055 86	1.32
Wages	161,824 58	160,985 49	— 839 09	0.52
Salaries	54,083 50	58,004 17	+ 1,029 33	1.90
Profit and minor expenses ..	195,599 53	195,197 16	— 402 37	0.21
Goods made or work done ...	981,756 57	974,574 77	— 7,181 80	0.73

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905
Goods made and work done (gross product).....	\$981,756 57	\$974,574 77
Value of stock used and material consumed in production	570,298 90	565,387 95
Industry product (gross production less value of stock and material)	411,457 61	409,196 83
Wages and salaries (Labor's direct share of product	215,853 08	213,989 63
Profit and minor expense fund (Industry product less wages)	195,599 53	195,197 16
Percentage of industry product paid in wages	Per cent. 52.47	Per cent. 52.30
Percentage of industry product devoted to profit and minor expense	47.53	47.70

TABLE IV—AVERAGE CAPITAL ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly Earnings in		Increase, + or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,220 95	\$1,238 88	+ \$17 93	1.47
Average product per employee	3,156 77	3,143 79	— 12 98	0.41
Average yearly earnings	520 34	519 31	— 1 03	0.20

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	299	307	90.99	91.64	9.12	8.33
February	300	299	91.19	86.27	8.81	13.73
March	306	292	93.01	87.16	6.99	12.81
April	308	304	93.69	90.75	6.33	9.25
May	311	307	94.53	91.64	5.47	8.36
June	319	325	95.93	97.01	3.01	2.99
July	329	315	100.—	94.03	0.00	5.97
August	325	319	98.78	95.23	1.22	4.78
September	319	335	96.96	100.—	3.04	0.00
October	309	317	93.92	94.63	6.08	5.37
November	305	305	93.01	91.04	6.99	8.96
December	304	308	92.40	91.94	7.60	8.06
Average	311	310	94.53	92.54	5.47	7.46

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	2	...	10.00	...	\$.96	...	\$.096	...	...	...
Bakers	159	151	10.04	9.31	2.159	2.159	.215	.217	...	...
Bakers, female	3	3	10.00	10.00	1.307	1.447	.131	.145	+.14	10.71
Bakers' helpers	40	39	10.00	9.94	1.125	1.045	.113	.105	-.08	7.11
Bakers' helpers, female	13	17	10.23	9.94	.80	.911	.078	.092	+.111	13.87
Bench hands .....	...	2	...	10.00	...	1.875	...	.188	...	...
Bookkeepers	2	1	9.00	10.00	2.50	2.50	.278	.250	...	...
Bookkeepers, female .....	...	1	...	10.00	...	1.00	...	.100	...	...
Boys	1	...	10.00	...	.97	...	.097	...	...	...
Cleaners, female .....	...	3	...	10.00	...	1.00	...	.100	...	...
Clerks	1	3	9.00	10.00	.75	2.00	.075	.200	+1.25	156.67
Clerks, female	20	26	9.95	10.04	.872	.864	.088	.086	-.008	0.92
Cooks, female	2	2	10.00	9.00	.75	.50	.075	.056	-.21	33.33
Drivers	48	51	9.54	9.84	1.080	1.993	.208	.203	-.006	0.27
Engineers	1	2	10.00	10.00	2.33	2.415	.233	.242	+.085	3.65
Foremen .....	...	2	...	10.00	...	2.75	...	.275	...	...
Hostlers .....	...	1	...	0.00	...	2.04	...	.204	...	...
Laborers	10	2	10.40	10.00	1.802	1.00	.173	.100	-.832	44.51
Machinists	1	...	10.00	...	2.50	...	.250	...	...	...
Mixers	1	...	10.00	...	2.50	...	.250	...	...	...
Packers	6	6	9.67	9.00	1.528	1.71	.158	.171	+.182	11.91
Packers, female	4	...	9.25	...	1.607	...	.174	...	...	...
Pastry cooks	1	...	10.00	...	1.75	...	.175	...	...	...
Receivers	1	...	10.00	...	2.00	...	.200	...	...	...
Salesmen .....	...	2	...	10.00	...	3.75	...	.375	...	...
Shipping clerks	3	4	10.00	10.00	2.117	1.875	.212	.188	-.242	11.43
Stenographers, female	1	1	9.00	10.00	1.17	1.53	.130	.153	+.16	13.63
Watchmen	1	1	10.00	10.00	2.00	2.00	.200	.200	...	...
Wrappers, female	6	...	8.00	...	.697	...	.087	...	...	...
Total	329	320	9.91	9.99	\$1.773	\$1.793	\$.179	\$.180	+.02	1.13

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages (inclusive)	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.24 to \$0.41.	1				1		\$0.35				\$0.35	
.42 to .49.				1		1			\$0.42		.42	
.50 to .58.	3	2	5	5	8	7	.527	\$0.50	.50	\$0.50	.51	\$0.50
.59 to .66.		4				4		.638				.638
.67 to .74.	3		6	2	9	2	.69		.67	.67	.677	.67
.75 to .88.	9	10	12	16	21	26	.768	.774	.83	.809	.803	.793
.84 to .91.	5	1	2	6	7	7	.86	.85	.87	.847	.863	.847
.92 to .99.	1	1	3	1	4	2	.92	.92	.947	.96	.94	.94
1.00 to 1.08.	9	17	13	16	22	33	1.00	1.004	1.003	1.011	1.002	1.008
1.17 to 1.24.	1	9	1		2	9	1.20	1.21	1.17		1.185	1.21
1.25 to 1.33.	9	3	1		10	7	1.279	1.303	1.26	1.27	1.276	1.284
1.34 to 1.41.	2	2			2	2	1.40	1.40			1.40	1.40
1.42 to 1.49.			1	1	1	1			1.42	1.42	1.42	1.42
1.50 to 1.58.	17	18		1	17	19	1.50	1.502		1.50	1.50	1.502
1.59 to 1.66.	2	3			2	3	1.66	1.633			1.68	1.683
1.67 to 1.74.	19	3	4	1	23	4	1.672	1.67	1.67	1.67	1.671	1.67
1.75 to 1.83.	6	8			6	8	1.803	1.77			1.803	1.77
1.84 to 1.91.	3	3			3	3	1.847	1.867			1.847	1.867
1.92 to 1.99.		34				34		1.949				1.949
2.00 to 2.08.	116	53			116	53	2.006	2.011			2.006	2.011
2.09 to 2.16.	2	1			2	1	2.16	2.16			2.16	2.16
2.17 to 2.24.	6	8			6	8	2.17	2.17			2.17	2.17
2.25 to 2.33.	9	18			9	19	2.23	2.281			2.23	2.281
2.34 to 2.41.	4					4		2.373				2.373
2.50 to 2.58.	81	37			81	37	2.502	2.50			2.502	2.50
2.59 to 2.66.	4	4			4	4	2.60	2.60			2.60	2.60
2.67 to 2.74.	2				2		2.67				2.67	
2.75 to 2.83.	1	5			1	5	2.75	2.798			2.75	2.798
2.84 to 2.91.	2	1			2	1	2.855	2.85			2.855	2.85
2.92 to 2.99.		1				1		2.92				2.92
3.00 to 3.08.	10	13			10	13	3.00	3.00			3.00	3.00
3.25 to 3.33.	2	1			2	1	3.29	3.25			3.29	3.25
3.50 to 3.58.		1				1		3.50				3.50
4.00 to 4.08.		1				1		4.00				4.00
Total ..	279	267	49	53	328	320	1.922	1.907	.919	.917	1.773	1.793

Remarks.—The most noticeable fact in connection with this industry is the very slight difference in the reports of the two years. The industry cannot therefore be said to have experienced any considerable growth during this period. There was a slightly increased investment in buildings and in machinery, and an insignificant decrease in the value of materials used and of wages and salaries paid, and in the average number of persons employed, the difference being in each case about 1 per cent. or less. The average number of days of operation, 467 each year, indicates that in several of the establishments day and night shifts were employed. Employment was fairly uniform throughout each year, there being a gradual increase in the number employed up to the summer months, when the maximum was reached, followed by a gradual decrease until

about the end of the year. Female help was employed chiefly in the subordinate occupations. Exceptions were the employment of 3 women as bakers and 2 as cooks each year, and from 13 to 17 as bakers' helpers. Four more women were employed in 1905 than in 1904—an increase of about 8 per cent. Although female bakers and bakers' helpers received 11 per cent. and 14 per cent. higher wages respectively in 1905, female cooks received 33 per cent. less per day, and the average daily wages for female help decreased about 2 per cent. for 1905. Men's wages, on the contrary, increased over 2 per cent. The employment of six women as wrappers in 1904 with 8 hours' work per day, and none in 1905, made the average number of hours for women about 2 per cent. greater for the latter year. But for those persons actually employed both years the hours were slightly shorter in 1905.

4. BEEF AND PORK PACKING—11 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905,	
	1904.	1905.	Amount.	Per cent
Number of private firms	6	6	.....	.....
Number of male partners	11	11	.....	.....
Number of female partners	8	8	.....	.....
Total number of partners	14	14	.....	.....
Number of corporations	5	5	.....	.....
Number of male stockholders	33	32	— 1	3.03
Number of female stockholders .....	.....	1	+ 1	.....
Total number of stockholders	33	33	.....	.....
Total number of partners and stockholders	47	47	.....	.....
Smallest number of persons employed	1,085	1,210	+ 175	16.91
Greatest number of persons employed	1,637	1,844	+ 207	12.65
Average number of persons employed	1,267	1,445	+ 158	12.28
Average days in operation	281	286	+ 4	1.42

TABLE II—INVESTMENT.

Classification,	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$267,434 18	\$299,250 00	+ \$11,915 82	4.15
Buildings and fixtures	573,834 65	591,827 53	+ 17,992 88	3.14
Machinery, etc.	535,936 14	607,817 55	+ 71,881 41	13.41
Cash and other capital	2,558,297 75	2,618,927 09	+ 60,629 34	2.37
Total	\$3,955,472 72	\$4,117,822 17	+ \$162,349 45	4.10

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1901.	1905.	Amount.	Per cent
Raw material used	\$11,509,271 45	\$12,851,269 26	+\$1,341,997 81	11.66
Other material used	470,312 70	581,677 03	+ 61,364 33	13.05
Wages	608,858 49	678,861 05	+ 70,002 56	11.50
Salaries	156,120 16	176,655 44	+ 20,535 28	13.15
Profit and minor expenses ..	821,072 71	910,965 96	+ 89,893 27	10.95
Goods made and work done	13,565,635 51	15,149,428 76	+ 1,583,793 25	11.68

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1901.	1905.
Value of good made and work done (gross product)	\$13,565,635 51	\$15,149,428 76
Value of stock used and other material consumed in production	11,979,584 15	13,232,846 29
Industry product (gross production less value of stock and material)	1,586,051 36	1,706,432 47
Wages and salaries (Labor's direct share of pro- duct)	764,278 05	855,518 49
Profit and minor expense fund (industry product less wages)	821,072 71 Per cent.	910,965 96 Per cent.
Percentage of industry product paid in wages	48.23	48.43
Percentage of industry product devoted to profit and minor expenses	51.77	51.57

TABLE IV—AVERAGE CAPITAL ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1901.	1905	Amount.	Per cent.
Average capital per employee	\$3,073 41	\$2,849 70	— \$223 71	7.26
Average product per employee	10,540 51	10,484 03	— 56 48	0.54
Average yearly earnings	473 08	469 00	— 4 08	0.86

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	1,637	1,844	100.—	100.00	0.00	0.00
February	1,396	1,590	85.28	85.23	14.72	13.77
March	1,089	1,307	66.52	70.88	33.48	29.12
April	1,035	1,210	63.23	65.02	36.77	34.38
May	1,105	1,238	67.50	67.14	32.50	32.83
June	1,352	1,363	82.59	73.99	17.41	26.09
July	1,404	1,307	85.77	70.88	14.23	29.12
August	1,284	1,383	78.44	75.00	21.56	25.—
September	1,166	1,371	71.23	74.85	28.77	25.05
October	1,163	1,204	71.05	68.55	28.95	31.45
November	1,233	1,056	75.32	89.75	24.68	10.25
December	1,582	1,809	96.64	98.10	3.36	1.90
Average	1,287	1,445	78.62	79.86	21.38	21.64

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Barnmen	1	10.	10.	10.	\$2.00	.....	\$ .20	.....	.....	.....
Blacksmiths	1	10.	10.	10.	2.50	\$2.50	.25	\$.25	.....	.....
Boys	1	5	10.	10.	1.25	1.15	.125	.115	— \$.10	\$5.00
Butchers	37	323	10.	10.	2.007	2.236	.206	.228	+	.169 8.17
Carpenters	1	26	10.	10.	2.263	2.27	.226	.227	+	.004 0.18
Cashiers, female .....	.....	1	.....	9.	.....	.83	.....	.092	.....	.....
Casing cleaners .....	.....	4	10.	10.	1.553	1.71	.158	.171	+	.127 8.02
Cellar men	2	1	10.	10.	1.50	1.25	.15	.125	—	.25 16.67
Clerks	1	.....	10.	10.	1.50	.....	.15	.....	.....	.....
Clerks, female	3	2	10.	10.	.857	.915	.088	.091	+	.028 3.16
Coopers	23	12	10.	10.	2.397	2.28	.239	.229	—	.107 4.52
Electricians	1	1	10.	10.	3.00	3.00	.30	.30	.....	.....
Engineers	10	7	10.	10.	2.529	2.49	.253	.249	—	.039 1.54
Firemen	8	2	10.75	10.	2.069	1.675	.197	.157	—	.494 23.87
Foremen	5	16	10.	10.	3.328	2.99	.333	.299	—	.838 21.88
Helpers	60	105	10.	10.	1.502	1.666	.15	.166	+	.154 10.92
Laborers	755	815	10.	10.	1.568	1.653	.156	.165	+	.055 3.41
Laborers, female	14	20	10.	10.	1.018	1.00	.102	.10	—	.018 1.77
Machinists	9	13	10.	10.	2.31	2.264	.231	.226	—	.049 2.00
Machine tenders	2	2	10.	10.	2.00	2.17	.20	.217	+	.17 8.50
Meat cutters	2	2	10.	10.5	2.00	1.415	.20	.185	—	.585 29.25
Meat trimmers .....	.....	16	.....	10.	.....	1.90	.....	.10	.....	.....
Microscopists, female	1	1	10.	8.	1.50	1.50	.15	.187	.....	.00
Packers	7	10	10.	10.	2.00	1.78	.20	.178	—	.22 11.00
Salesmen	7	.....	10.	.....	2.143	.....	.214	.....	.....	.....
Sausage makers	63	63	10.	10.	2.118	2.148	.212	.214	+	.03 1.42
Shipping clerks .....	.....	1	.....	10.	.....	.35	.....	.335	.....	.....
Steam fitters	1	1	10.	10.	2.25	2.25	.225	.225	.....	.....
Stenographers, female .....	.....	1	.....	7.	.....	.83	.....	.115	.....	.....
Teamsters	13	20	10.	10.	1.67	1.702	.167	.17	+	.032 1.92
Watchmen	12	9	10.42	10.22	2.103	1.944	.201	.19	—	.159 7.56
Total and av.	1,391	1,481	10.	10.	1.788	1.838	.178	.183	+	.049 2.74

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages (inclusive.)	Total number of personsemployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.50 to \$0.59.	1	4			1	4	\$0.50				\$0.50	
.50 to .59.	1	4			1	4	.60	.60			.60	.60
.60 to .69.		1				1		.70				.70
.70 to .79.	5	3	2	3	7	6	.81	.83	\$0.83	\$0.83	.82	.83
.80 to .89.		2				2		.90				.90
.90 to 1.00.	30	29	14	21	44	50	1.00	1.00	1.00	1.00	1.00	1.00
1.00 to 1.09.							1.15				1.15	
1.10 to 1.19.	2					2						
1.20 to 1.29.	8	9			8	9	1.17	1.17			1.17	1.17
1.30 to 1.39.	30	33	1		40	33	1.26	1.26	1.25		1.26	1.26
1.40 to 1.49.	20	15			20	15	1.37	1.38			1.37	1.38
1.50 to 1.59.		6				6		1.42				1.42
1.60 to 1.69.	328	99	1	1	329	99	1.50	1.50	1.50	1.50	1.50	1.50
1.70 to 1.79.	62	295			62	295	1.63	1.62			1.63	1.62
1.80 to 1.89.	51	40			51	40	1.67	1.63			1.67	1.63
1.90 to 1.99.	360	375			360	375	1.75	1.75			1.75	1.75
2.00 to 2.09.	69	91			69	91	1.87	1.87			1.87	1.87
2.10 to 2.19.	204	178			204	178	2.00	2.04			2.00	2.04
2.20 to 2.29.	2	10			2	10	2.15	2.18			2.15	2.18
2.30 to 2.39.	54	64			54	64	2.25	2.25			2.25	2.25
2.40 to 2.49.		1				1		2.35				2.35
2.50 to 2.59.		8				8		2.48				2.48
2.60 to 2.69.	93	138			93	138	2.50	2.50			2.50	2.50
2.70 to 2.79.		1				1		2.60				2.60
2.80 to 2.89.	13	11			13	11	2.75	2.75			2.75	2.75
2.90 to 2.99.	1	1			1	1	2.88	2.88			2.88	2.88
3.00 to 3.09.	19	22			19	22	3.00	3.00			3.00	3.00
3.10 to 3.19.	3	3			3	3	3.30	3.33			3.30	3.33
3.20 to 3.29.	1	3			1	3	3.50	3.50			3.50	3.50
3.30 to 3.39.	1	1			1	1	3.67	3.67			3.67	3.67
3.40 to 3.49.	2	2			2	2	3.85	3.85			3.85	3.85
3.50 to 3.59.	1	1			1	1	4.00	4.00			4.00	4.00
3.60 to 3.69.	3	3			3	3	4.17	4.17			4.17	4.17
3.70 to 3.79.	1	1			1	1	4.33	4.33			4.33	4.33
Total	1,373	1,456	18	25	1,391	1,481	\$1.709	\$1.852	\$1.023	\$1.00	\$1.798	\$1.837

Remarks.—That this industry is in a flourishing condition is evidenced by the 4 per cent. increase in the capital invested—every item of investment showing an increase,—the 12 per cent. increase in the number of employees, and the increase of over 12 per cent. in output. The increase in total wages paid was proportionate to the increase in the industry product. The average yearly earnings were slightly less in 1905, in spite of the increase of 3 per cent. in the average daily wages paid. The discrepancy was probably due to the irregularity of employment, since there was a wide variation in the number of persons employed from month to month. January and December were the busiest months each year, while the period of least activity occurred in the spring, when fewest shipments of live stock would naturally be made. With one exception female help was

employed only in the minor occupations. There was a decrease of 2 per cent. in the average daily wages paid to women, but the average hours of labor also decreased 2 per cent., leaving the average hourly wages the same for the two years.

5. BLANK-BOOKS AND STATIONERY—9 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms.....	7	7		
Number of male partners.....	9	9		
Number of female partners.....				
Total number of partners.....	9	9		
Number of corporations.....	2	2		
Number of male stockholders.....	8	7	— 1	12.50
Number of female stockholders.....	1	1		
Total number of stockholders.....	9	8	— 1	11.11
Total number of partners and stockholders.....	18	17	— 1	5.56
Smallest number of persons employed.....	272	249	— 23	8.46
Greatest number of persons employed.....	303	300	— 3	0.99
Average number of persons employed.....	288	271	— 17	5.90
Average days in operation.....	315	305	— 10	3.17

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$3,050 00	\$3,050 00		
Buildings and fixtures.....	5,250 00	11,150 00	+ \$2,900 00	55.15
Machinery, etc.	55,630 58	59,537 43	+ 3,906 85	7.02
Cash and other capital.....	67,444 39	72,322 71	+ 5,378 32	7.97
Total	\$134,374 97	\$146,560 14	+ \$12,185 17	9.07

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used.....	\$127,259 15	\$125,795 10	— \$1,464 05	1.15
Other material used.....	32,456 07	32,938 71	+ 482 64	1.48
Wages	91,897 58	89,664 40	— 2,233 18	2.43
Salaries	18,440 00	23,420 62	+ 4,980 62	27.01
Profit and minor expense.....	52,137 56	49,194 92	— 2,942 64	5.64
Goods made and work done.	322,192 36	321,013 75	— 1,178 61	0.37

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1901.	1905.
Value of goods made and work done (gross product)	\$322,192 33	\$321,013 75
Value of stock used and material consumed in production	159,717 22	153,733 81
Industry products (gross production less value of stock and material)	162,475 11	167,279 94
Wages and salaries (Labor's direct share of product)	110,337 58	113,085 02
Profit and minor expense fund (Industry product less wages)	52,137 56	49,194 92
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	67.91	69.60
Percentage of industry product devoted to profit and minor expenses.....	32.09	30.31

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904	1905.	A.mout.	Per cent.
Average capital per employee.....	\$463 58	\$540 81	+ \$74 23	15.91
Average product per employee.....	1,118 72	1,184 55	+ 65 83	5.88
Average yearly earnings.....	319 09	330 86	+ 11 77	3 69

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905	1904.	1905.	1904.	1905.
January	278	320	91.75	100.—	8.25	0.00
February	275	254	90.70	94.67	9.24	5.33
March	272	274	89.77	91.33	10.23	8.67
April	266	267	97.69	89.00	2.31	11.—
May	302	253	99.67	86.33	0.33	13.67
June	292	268	93.37	89.33	3.63	10.67
July	277	261	91.42	87.00	8.58	13.—
August	274	240	90.43	83.00	9.57	17.—
September	282	254	93.07	84.67	6.93	15.33
October	298	271	98.35	90.33	1.65	9.67
November	302	278	99.67	92.67	0.33	7.33
December	333	285	100.—	95.00	0.00	5.—
Average	288	271	95.05	90.33	4.95	9.67

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	17	15	9.12	9.13	\$.842	\$.767	\$.092	\$.084	— \$.075	8.91
Binders	57	68	9.03	9.09	1.89	1.99	.202	.219	+ .11	5.86
Binders, female	85	60	9.00	9.00	.702	.777	.078	.083	+ .075	10.68
Boys	4		7.50		.493		.066			
Compositors	1		9.00		2.83		.314			
Covermakers, female	6	4	9.00	9.00	1.00	1.25	.111	.139	+ .25	25.00
Feeders		1		10.00		1.00		.100		
Feeders, female	4	4	9.00	10.00	.72	.833	.080	.083	+ .113	15.60
Finishers		1		9.00		8.00		.333		
Folders, female	68	21	9.01	9.00	.607	.637	.037	.037	0.00	0.00
Foremen		2		9.25		2.75		.297		
Forewomen	3		9.67		1.30		.131			
Gilders	4	4	9.00	9.00	2.335	2.00	.259	.222	— .335	14.35
Helpers	5	6	9.20	9.25	.736	.891	.080	.093	+ .15	21.06
Helpers, female	2	28	9.50	9.00	.75	.696	.079	.077	— .064	7.20
Leather cutters	3	8	9.00	9.13	1.50	1.706	.167	.187	+ .206	13.73
Machine tenders, female	5	5	10.00	10.00	1.607	1.22	.160	.122	— .383	23.89
Machinists	4	3	9.75	10.00	2.375	2.183	.244	.218	— .192	8.08
Paper cutters	3	4	9.00	9.00	2.307	2.313	.256	.257	+ .003	0.26
Paper cutters, female	1	1	10.00	10.00	.78	.85	.078	.065	+ .07	8.97
Pressmen	1	4	9.00	9.00	2.00	2.00	.222	.222	0.00	0.00
Printers	3	3	9.00	9.00	1.403	2.03	.156	.229	+ .1197	85.32
Rulers	4	2	9.25	9.00	2.083	0.90	.275	.312	+ .817	37.22
Shipping clerks	3	2	9.33	9.50	1.50	1.875	.161	.197	+ .375	25.00
Stitchers, female	10	11	9.00	9.00	.733	.795	.081	.088	+ .032	8.43
Total	328	320	9.91	9.69	\$1.773	\$1.793	\$.179	\$.130	+ \$.02	1.13

TABLE VII.—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904	1905.	1904	1905.	1904	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904	1905.	1904	1905.	1904	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 or less..			1		1				0.33		0.33	
.34 to \$.41..			8		8				.38		.38	
.42 to .49..	2		12	7	14	7	0.42		.454	0.449	.449	0.449
.50 to .59..	11	9	40	27	51	36	.515	0.50	.54	.500	.534	.50
.59 to .66..	1		89	9	40	9	.69		.634	.613	.634	.613
.67 to .74..	3	1	12	10	15	11	.67	.67	.683	.685	.681	.684
.75 to .83..	1	8	35	40	36	43	.88	.75	.794	.770	.767	.769
.84 to .91..	4		2	12	6	12	.88		.85	.895	.870	.895
.92 to .99..			7		7				.92		.92	
1.00 to 1.08..	4	7	19	10	23	23	1.00	1.00	1.019	1.005	1.016	1.008
1.17 to 1.24..	5		4	6	9	6	1.178		1.20	1.17	1.187	1.17
1.25 to 1.33..	10	2	2	4	12	6	1.282	1.29	1.29	1.25	1.283	1.263
1.34 to 1.41..		2				2			1.375		1.375	
1.42 to 1.49..	1		1	8	2	8	1.42		1.42	1.49	1.49	1.49
1.50 to 1.58..	6	13	1		1	13	1.50	1.50	1.50		1.50	1.50
1.59 to 1.66..		1				1			1.65		1.65	
1.67 to 1.74..	11				11		1.673				1.673	
1.75 to 1.83..	6	5	1		7	5	1.812	1.75	1.83		1.814	1.75
1.84 to 1.91..	1				1		1.83	1.85			1.88	1.85
2.00 to 2.08..	15	53			15	53	2.001	2.00			2.011	2.00
2.17 to 2.24..	4	2	4		4	2	2.17	2.17			2.17	2.17
2.25 to 2.33..	3	6			3	6	2.303	2.25			2.303	2.25
2.34 to 2.41..	1				1		2.40				2.40	
2.50 to 2.58..	9	10			9	10	2.509	2.505			2.509	2.505
2.67 to 2.74..	5				5		2.67				2.67	
2.75 to 2.83..	3	4			3	4	2.803	2.775			2.803	2.775
3.00 to 3.08..	3	3			3	3	3.00	3.00			3.00	3.00
4.00 to 4.08..		1				1		4.00				4.00
Total ...	109	123	184	134	293	257	1.644	1.825	.705	.768	1.055	1.274

Remarks.—There was an increase of over 9 per cent. in 1905, in the amount of capital invested in this industry. The investment in buildings increased 35 per cent., an indication that the industry is becoming established on a more permanent basis. The number of days of operation was 3 per cent. less in 1905, in consequence of which the output shows a slight decrease—less than 1 per cent. however. A change of unusual interest is that occurring in the relative number of male and female employees. In this industry female help is employed in several of the same occupations as male help. More women were employed each year than men. But in 1905 a decrease of 28 per cent. occurred in the number of women employed, whereas the number of male employees increased 13 per cent. Twenty five fewer women were employed as binders, and 47 fewer as folders; although a part of these may be accounted for in the increase of 26 in the number reported as helpers in 1905. The fact is

worthy of notice that where 3 forewomen were employed in 1904, none was employed in 1905, their places having been taken by men. There was a slight decrease in the hours of labor for female employees. Their average daily wages increased 9 per cent. The wages of women were much lower each year than those of men, even where they were employed in the same occupations. The average daily wages of men increased 11 per cent. The greater irregularity of employment in 1905 reduced the increase in the average yearly earnings of all employees to 4 per cent.

6. BOILERS AND TANKS—21 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905	Amount.	Per cent
Number of private firms	12	12	—	—
Number of male partners	18	17	— 1	5.56
Number of female partners	3	4	+ 2	100.—
Total number of partners	20	21	+ 1	5.00
Number of corporations	9	9	—	—
Number of male stockholders	66	71	+ 5	7.56
Number of female stockholders	9	11	+ 2	22.22
Total number of stockholders	75	82	+ 7	9.33
Total number of partners and stockholders	95	103	+ 8	8.42
Smallest number of persons employed	574	618	+ 44	7.67
Greatest number of persons employed	700	695	— 5	0.71
Average number of persons employed	617	659	+ 42	6.81
Average days in operation	283	283	—	—

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$125,250 00	\$125,836 76	+ \$586 76	0.47
Buildings and fixtures	146,343 91	146,211 91	— 132 00	0.09
Machinery, etc.	440,727 78	473,927 63	+ 33,199 85	7.53
Cash and other capital	362,094 67	340,271 87	— 21,822 80	6.03
Total	\$1,074,416 36	\$1,086,248 17	+ \$11,831 81	1.10

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$767,620 59	\$820,064 78	+ \$53,044 19	6.91
Wages	340,200 06	371,533 87	+ 31,332 21	9.21
Other material used	55,414 62	98,297 27	+ 2,882 65	3.02
Salaries	61,974 33	74,842 40	+ 9,868 07	15.19
Profit and minor expenses	294,019 23	304,885 95	+ 10,866 72	3.49
Goods made and work done	1,562,829 43	1,670,223 27	+ 107,393 84	6.73

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$1,562,829 43	\$1,670,223 27
Value of stock used and other material consumed in production	883,035 21	9 8,562 05
Industry product (gross production less value of stock and material)	609,794 22	751,261 22
Wages and salaries (Labor's direct share of product).	465,174 99	446,375 27
Profit and minor expense fund (Industry product less wages)	294,019 23	304,885 95
Percentage of industry product paid in wages	Per cent. 57.90	Per cent. 59.42
Percentage of industry product devoted to profit and minor expenses	42.10	40.58

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,741 36	\$1,648 33	— \$9,303	5.34
Average product per employee	2,532 95	2,534 48	+ 1.53	0.03
Average yearly earnings	551 38	563 78	+ 12 40	2.25

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905	1904.	1905
January	700	618	100.—	88.92	0.00	11.08
February	690	618	94.28	88.92	5.72	11.08
March	638	630	91.14	90.65	8.85	9.35
April	633	620	90.43	89.21	9.57	10.79
May	602	654	86.00	94.10	14.00	5.90
June	579	695	82.71	100.—	17.29	0.00
July	574	674	82.00	96.98	18.00	3.02
August	508	645	84.71	92.81	15.29	7.19
September	612	678	87.43	97.56	12.57	2.44
October	610	692	87.14	99.57	12.86	0.43
November	592	692	84.57	99.57	15.43	0.43
December	616	637	88.00	98.85	12.00	1.15
Average	617	659	88.14	94.83	11.86	5.13

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905	1904.	1905.	1901	1905.	Amt.	Per ct.
Apprentices	22	22	9.82	10	\$1.184	\$1.158	\$.13	\$.115	— \$.068	2.11
Blacksmiths	5	8	10	10	2.25	2.806	.225	.23	+ .056	2.49
Blacksmiths' helpers	1	1	10	10	1.75	1.75	.175	.175	—	—
Boiler makers	188	188	9.63	9.93	2.465	2.489	.254	.25	+ .024	.97
Boiler makers' helpers	36	31	9.7	9.74	1.536	1.55	.157	.159	+ .014	.91
Braziers	1	1	10	10	1.85	1.85	.185	.185	—	—
Carpenters	1	2	10	10	1.85	1.85	.185	.195	+ .10	5.40
Coremakers	1	3	9	10	2.20	1.433	.224	.143	— .767	34.83
Cupola tenders	1	1	10	10	2.25	2.25	.225	.225	—	—
Draftsmen	1	1	10	10	1.75	1.75	.175	.175	—	—
Engineers	4	4	10.6	10.37	2.59	2.212	.216	.223	— .008	2.98
Erectors	7	7	10	10	2.071	2.071	.207	.207	—	—
Firemen	2	1	10	10	1.835	1.85	.184	.185	+ .015	.82
Foremen	3	1	10	10	4.22	4.00	.422	.40	— .22	5.21
Founders	9	10	9	10	1.606	1.57	.178	.197	— .086	2.21
Furnace tenders	6	7	10	10	1.983	1.793	.193	.179	— .14	7.24
Galvanizers	3	3	10	10	1.90	1.90	.19	.19	—	—
Helpers	172	175	9.95	9.92	1.614	1.683	.162	.169	— .069	4.23
Laborers	50	38	9.88	10	1.748	1.50	.178	.15	— .248	1.42
Machine operators	3	7	10	10	2.25	1.986	.225	.198	— .264	11.73
Machinists	68	53	10	10	2.38	2.352	.238	.235	— .028	1.18
Machinists' helpers	5	5	10	10	1.78	1.78	.178	.178	—	—
Molders	13	15	9	10	2.70	2.957	.20	.25	+ .257	9.53
Painters	4	3	10	10	1.912	2.107	.191	.216	+ .255	13.31
Pattern makers	5	7	10	10	2.60	2.571	.26	.257	— .029	1.12
Pickers	1	1	10	10	1.95	1.80	.195	.18	— .15	7.69
Plumbers	2	1	10	10	2.50	3.00	.25	.30	+ .50	20.00
Rivet heaters	6	8	10	10	1.083	.925	.108	.092	— .158	14.59
Sheet-iron workers	5	7	10	10	1.85	1.935	.185	.193	+ .085	4.59
Shopmen	61	61	10	10	1.49	1.49	.149	.149	—	—
Shipping clerks	2	10	10	10	1.575	1.57	.157	.157	—	—
Steam fitters	6	8	10	10	2.125	2.175	.212	.217	+ .05	2.35
Tallymen	1	1	10	10	2.10	2.10	.21	.21	—	—
Teamsters	4	4	10	10	1.761	1.70	.176	.17	— .061	3.46
Testers	1	1	10	10	2.00	2.00	.20	.20	—	—
Timekeepers	9	1	10	10	1.75	2.50	.175	.25	+ .75	42.86
Tinners	1	1	10	10	2.35	2.50	.235	.25	+ .15	6.8
Watchmen	5	3	10.8	10.37	1.69	1.783	.169	.172	+ .008	5.5
Wood workers	19	10	10	10	1.89	1.83	.188	.183	— .05	2.63
Total and av.	653	701	9.84	9.95	1.998	1.969	.203	.198	— .029	1.45

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904. 1905.		1904 1905.		1904 1905.		1904. 1905.		1904. 1905.		1904. 1905.	
	1904.	1905.	1904	1905.	1904	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.50 to \$0.58..	1	.....	.....	.....	1	.....	\$0.50	.....	.....	.....	\$0.50	.....
.75 to .83..	8	9	.....	.....	8	9	.75	0.75	.....	.....	.75	\$0.75
.84 to .91..	1	7	.....	.....	1	7	.90	.864	.....	.....	.90	.864
1.00 to 1.08..	24	28	.....	.....	24	26	1.00	1.00	.....	.....	1.00	1.00
1.09 to 1.16..	1	1	.....	.....	1	1	1.10	1.10	.....	.....	1.10	1.10
1.25 to 1.33..	14	20	.....	.....	14	20	1.25	1.25	.....	.....	1.25	1.25
1.34 to 1.41..	14	18	.....	.....	14	18	1.39	1.378	.....	.....	1.39	1.378
1.50 to 1.58..	78	95	.....	.....	78	95	1.50	1.50	.....	.....	1.50	1.50
1.59 to 1.66..	51	81	.....	.....	51	81	1.61	1.623	.....	.....	1.61	1.623
1.67 to 1.74..	34	9	.....	.....	34	9	1.669	1.70	.....	.....	1.669	1.70
1.75 to 1.83..	109	110	.....	.....	109	110	1.757	1.758	.....	.....	1.757	1.758
1.84 to 1.91..	17	16	.....	.....	17	16	1.852	1.858	.....	.....	1.852	1.858
1.92 to 1.99..	3	1	.....	.....	3	1	1.93	1.95	.....	.....	1.93	1.95
2.00 to 2.08..	86	84	.....	.....	86	84	2.00	2.00	.....	.....	2.00	2.00
2.09 to 2.16..	19	16	.....	.....	12	16	2.116	2.117	.....	.....	2.116	2.117
2.17 to 2.24..	2	2	.....	.....	2	2	2.20	2.20	.....	.....	2.20	2.20
2.25 to 2.33..	47	65	.....	.....	47	65	2.251	2.25	.....	.....	2.251	2.25
2.34 to 2.41..	6	4	.....	.....	6	4	2.358	2.362	.....	.....	2.358	2.362
2.50 to 2.58..	40	35	.....	.....	40	35	2.50	2.50	.....	.....	2.50	2.50
2.59 to 2.66..	24	20	.....	.....	24	20	2.615	2.61	.....	.....	2.615	2.61
2.67 to 2.74..	1	1	.....	.....	1	1	2.70	2.68	.....	.....	2.70	2.68
2.75 to 2.83..	14	10	.....	.....	14	10	2.75	2.75	.....	.....	2.75	2.75
2.84 to 2.91..	11	9	.....	.....	11	8	2.856	2.85	.....	.....	2.856	2.85
2.92 to 2.99..	.....	1	.....	.....	.....	1	.....	2.94	.....	.....	.....	2.94
3.00 to 3.08..	32	33	.....	.....	32	33	3.00	3.00	.....	.....	3.00	3.00
3.09 to 3.16..	.....	2	.....	.....	.....	2	.....	3.10	.....	.....	.....	3.10
3.17 to 3.24..	1	.....	.....	.....	1	.....	3.20	.....	.....	.....	3.20	.....
3.25 to 3.32..	18	23	.....	.....	18	23	3.297	3.312	.....	.....	3.297	3.312
3.50 to 3.58..	4	5	.....	.....	4	5	3.50	3.502	.....	.....	3.50	3.502
3.75 to 3.83..	1	.....	.....	.....	1	.....	3.75	.....	.....	.....	3.75	.....
4.00 to 4.08..	1	4	.....	.....	1	4	4.00	4.00	.....	.....	4.00	4.00
4.25 to 4.33..	1	1	.....	.....	1	1	4.25	4.25	.....	.....	4.25	4.25
5.00 to 5.08..	1	1	.....	.....	1	1	5.00	5.00	.....	.....	5.00	5.00
5.75 to 5.83..	1	.....	.....	.....	1	.....	5.77	.....	.....	.....	5.77	.....
Total	653	701	.....	.....	653	701	1.998	1.999	.....	.....	1.998	1.999

Remarks.—The tables show few changes in this industry for 1905. On the whole there was a moderate growth, as is evidenced by the increase of 1 per cent. in the capital invested, of 7 per cent. in the average number of persons employed, of 7 per cent. in the value of materials used, of 12 per cent. in the amount paid in wages and salaries, and of 7 per cent. in the value of the total output. There was less variation in employment in 1905, the maximum of unemployment for that year being only 11 per cent. as against 18 per cent. for 1904. There was a slight decrease in the average daily wages paid—between 1 per cent. and 2 per cent. Woodworkers, rivet heaters, machine operators, and furnace tenders, were the largest classes of employees affected by this decrease. No women were employed in this industry.

7. BOOTS AND SHOES—27 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	6	6		
Number of male partners	18	12	— 6	33.33
Number of female partners				
Total number of partners	18	12	— 6	33.33
Number of corporations	21	21		
Number of male stockholders	322	340	+ 18	5.59
Number of female stockholders	48	50	+ 2	4.17
Total number of stockholders	370	390	+ 20	5.41
Total number of partners and stockholders ..	388	402	+ 14	3.61
Smallest number of persons employed	2,249	2,220	— 28	1.25
Greatest number of persons employed	2,308	2,482	+ 84	3.50
Average number of persons employed	2,636	2,353	+ 47	2.01
Average days in operation	283	283		

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$64,667 50	\$64,501 20	— \$166 30	0.26
Buildings and fixtures	379,584 01	381,801 83	+ 2,217 82	0.58
Machinery, etc.	367,993 87	411,249 95	+ 43,256 08	11.75
Cash and other capital	1,843,517 22	1,825,015 94	— 18,501 28	1.00
Total	2,655,762 60	2,682,568 92	+ 26,806 32	1.01

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$2,885,632 32	\$3,130,188 06	+\$244,556 74	8.48
Other material used	225,482 27	251,324 38	+ 25,842 11	11.46
Wages	866,714 17	943,172 54	+ 76,458 37	8.82
Salaries	199,352 51	213,183 69	+ 13,831 18	6.94
Profit and minor expenses ..	373,831 29	403,351 65	+ 29,520 36	7.90
Goods made and work done ..	4,551,011 56	4,941,220 32	+ 390,208 76	8.57

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$4,551,011 56	\$4,941,290 32
Value of stock used and other material consumed in production	3,111,112 59	3,581,512 44
Industry product (gross product less value of stock and material)	1,439,897 97	1,559,707 88
Wages and salaries (Labor's direct share of product)	1,036,066 68	1,156,356 13
Profit and minor expenses fund (industry product less wages)	373,831 25	433,351 65
Percentage of industry product paid in wages	Per cent. 74.04	Per cent. 74.14
Percentage of industry product devoted to profit and minor expenses	25.96	25.86

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,136 88	\$1,125 71	— \$11 17	0.98
Average product per employee	1,948 21	2,073 53	+ 125 32	6.43
Average yearly earnings	371 02	395 79	+ 24 77	6.63

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	2,378	2,395	99.17	99.50	0.83	3.50
February	2,368	2,430	99.59	97.91	0.41	2.09
March	2,354	2,400	98.17	96.70	1.83	3.30
April	2,327	2,313	97.04	93.19	2.96	6.81
May	2,289	2,320	95.46	89.44	4.54	10.56
June	2,326	2,375	97.00	93.67	3.00	6.33
July	2,248	2,350	93.75	94.68	6.25	5.32
August	2,315	2,391	96.54	95.33	3.46	3.67
September	2,344	2,431	97.75	97.95	2.25	2.05
October	2,324	2,464	96.92	99.28	3.08	0.72
November	2,346	2,400	97.83	96.70	2.17	3.30
December	2,398	2,482	100.—	100.—	—	—
Average	2,336	2,383	97.41	96.01	2.59	3.99

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	P. r ct.
Apprentices	36	9	10.00	10.00	\$.766	\$.722	\$.079	\$.072	—	\$.061 8.14
Bottomers	263	239	9.98	10.00	1.874	1.716	.188	.172	—	.158 8.43
Box makers	1	1	10.00	10.00	1.67	1.67	.167	.167		
Carpenters	1	1	10.00	10.00	2.25			.225		
Clerks, female	2	2	10.00	10.00	1.875	1.80	.188	.187	—	.075 4.00
Cutters	184	223	9.91	9.93	2.106	1.968	.213	.197	—	.141 6.65
Cutters, female	7	5	10.00	10.00	1.006	1.784	.101	.178	+	.778 77.31
Edge setters	40	31	9.99	9.98	1.775	1.45	.178	.145	—	.325 18.31
Engineers	3	1	10.00	10.00	1.83	2.50	.183	.250	+	.610 34.41
Finishers	40	14	10.00	10.00	1.937	1.833	.199	.183	—	.154 7.75
Finishers, female	6	6	10.00	10.00	.65	.67	.065	.07	+	.020 3.08
Fitters	20	4	9.55	10.00	1.768	2.053	.175	.205	+	.315 10.20
Fitters, female	24	18	10.00	10.00	.927	.871	.093	.087	—	.066 6.04
Folders, female	1	2	10.00	10.00	1.20	1.45	.120	.145	+	.250 20.83
Foremen	14	25	9.96	9.98	3.236	3.124	.325	.313	—	.112 3.46
Forewomen	6	7	9.92	9.93	1.457	1.519	.170	.153	+	.032 2.15
Hand workers	70		10.00		1.80		.180			
Heelers	20	17	10.00	10.00	1.694	1.791	.169	.179	+	.097 5.73
Helpers	264	282	9.84	9.84	.845	.799	.083	.081	—	.046 5.44
Helpers, female	55	72	9.80	9.65	.725	.621	.073	.064	—	.104 14.34
Laborers	6	14	10.00	10.00	1.62	1.399	.162	.140	—	.221 13.64
Lasters	191	186	9.86	9.92	1.719	1.60	.174	.162	—	.11 6.69
Levelers	2	2	10.00	10.00	1.75	1.93	.175	.193	+	.150 10.20
Machine operators	124	140	9.81	9.88	1.102	1.902	.214	.193	—	.200 9.51
Machine operators, female	113	118	9.78	9.50	1.109	1.006	.114	.114	—	.013 1.17
Machinists	2	7	10.00	10.00	2.75	2.151	.275	.215	—	.539 21.78
Markers, female	8		10.00		.83		.083			
Packers	7	11	10.00	10.00	.029	1.439	.003	.144	+	.510 54.90
Packers, female	44	35	9.78	9.97	.882	.729	.090	.075	—	.151 17.35
Pattern makers	1		10.00	10.00	2.50	2.50	.250	.250		
Polishers	3	6	9.50	9.67	1.25	1.375	.132	.142	+	.125 10.00
Shipping clerks	6	5	9.83	9.80	1.492	1.50	.152	.162	+	.098 6.57
Shipping clerks, female	2	1	9.75	9.50	1.575	1.15	.169	.121	—	.425 26.93
Shoemakers	184	276	9.85	9.75	1.916	1.696	.195	.205	+	.080 4.18
Skinner, female	2		10.00		.75		.075			
Sole leather workers	6		10.00		1.583		.158			
Sorters, female			10.00		.833		.083			
Stampers	1		10.00		.42		.042			
Stampers, female	1	1	10.00	10.00	.42	.42	.042	.042		.000
Stitchers	16	20	10.00	10.00	1.374	1.186	.137	.119	—	.188 13.68
Stitchers, female	553	604	9.22	9.88	1.111	1.052	.120	.105	—	.059 5.31
Stockmen	2	4	10.00	10.00	2.50	1.72	.250	.172	—	.780 31.20
Sweepers	1	3	10.00	10.00	.07	.75	.007	.075	+	.031 11.91
Table workers, female	50	55	9.71	9.95	.599	.675	.062	.063	+	.076 12.60
Teamsters	1	1	5.00	6.00	1.50	1.80	.300	.300	+	.300 20.00
Treers	1	1	10.00	10.00	1.67	1.07	.167	.137		.000
Trimmers	9	8	9.94	9.94	1.658	2.094	.167	.211	+	.436 26.50
Vampers, female	1		10.00		1.00		.100			
Warehousemen	1	5	10.00	10.00	1.00	1.336	.100	.136	+	.356 35.60
Watchmen	3	4	10.67	10.50	1.64	1.488	.174	.142	—	.151 9.27
Total and average	2,401	2,400	9.88	9.87	1.45	1.397	.147	.142	—	.053 3.61

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.33 or less..	1	.....	6	7	7	7	\$0.33	.....	\$0.33	\$0.33	\$0.33	\$0.33
.34 to .41..	1	.....	4	2	5	2	.....	.....	.358	.35	.303	.35
.42 to .49..	4	19	8	17	12	20	.40	.....	.425	.422	.477	.421
.50 to .58..	26	29	57	82	83	111	.533	.538	.524	.518	.578	.521
.59 to .66..	.....	14	23	18	28	32	.....	.629	.624	.642	.624	.636
.67 to .74..	29	28	32	40	61	68	.689	.683	.67	.631	.679	.681
.75 to .83..	169	178	177	219	340	397	.757	.762	.767	.774	.762	.761
.84 to .91..	.....	16	38	16	38	38	.....	.864	.861	.864	.861	.861
.92 to .99..	36	37	56	57	92	94	.949	.945	.942	.932	.916	.937
1.00 to 1.03..	63	81	95	176	159	257	1.007	1.01	1.012	1.007	1.01	1.008
1.09 to 1.16..	42	41	31	22	73	63	1.112	1.112	1.118	1.103	1.114	1.11
1.17 to 1.24..	14	19	78	36	72	56	1.118	1.181	1.185	1.183	1.184	1.182
1.25 to 1.33..	99	91	209	68	308	169	1.261	1.261	1.263	1.273	1.257	1.261
1.34 to 1.41..	40	64	9	31	49	95	1.379	1.378	1.389	1.39	1.381	1.382
1.42 to 1.49..	6	42	3	3	9	45	1.433	1.445	1.443	1.44	1.437	1.445
1.50 to 1.58..	110	120	42	35	152	155	1.502	1.538	1.501	1.50	1.502	1.503
1.59 to 1.65..	71	13	10	1	81	14	1.642	1.637	1.645	1.61	1.642	1.634
1.67 to 1.74..	57	107	0	6	66	113	1.671	1.673	1.67	1.67	1.671	1.672
1.75 to 1.83..	89	119	6	43	92	165	1.77	1.77	1.758	1.751	1.77	1.761
1.84 to 1.91..	4	14	1	2	5	16	1.86	1.87	1.86	1.86	1.86	1.874
1.92 to 1.99..	2	.....	2	.....	2	6	1.935	1.935	.....	1.943	1.935	1.94
2.00 to 2.08..	327	269	16	12	343	221	2.001	2.013	2.00	2.01	2.001	2.012
2.09 to 2.16..	1	30	.....	1	1	31	2.10	2.137	.....	2.10	2.10	2.135
2.17 to 2.24..	18	23	1	.....	19	23	2.164	2.176	2.22	.....	2.183	2.173
2.25 to 2.33..	73	39	.....	3	78	42	2.26	2.281	.....	2.277	2.26	2.283
2.34 to 2.41..	21	7	.....	.....	21	7	2.352	2.38	.....	.....	2.352	2.38
2.42 to 2.49..	.....	1	.....	1	.....	2	.....	2.42	.....	2.42	.....	2.42
2.50 to 2.58..	151	127	4	.....	155	127	2.50	2.501	2.50	.....	2.50	2.531
2.59 to 2.66..	.....	8	.....	.....	.....	8	.....	2.65	.....	.....	.....	2.63
2.67 to 2.74..	1	3	.....	.....	1	3	2.67	2.68	.....	.....	2.67	2.68
2.75 to 2.83..	13	16	1	.....	19	16	2.759	2.75	2.75	.....	2.759	2.75
2.84 to 2.91..	.....	3	.....	1	.....	4	.....	2.83	.....	2.85	.....	2.673
2.92 to 2.99..	1	13	.....	.....	1	13	2.98	2.948	.....	.....	2.93	2.943
3.00 to 3.08..	21	12	.....	.....	21	12	3.011	3.00	.....	.....	3.011	3.01
3.09 to 3.16..	.....	2	.....	.....	.....	2	.....	3.10	.....	.....	.....	3.10
3.17 to 3.24..	.....	2	.....	.....	.....	2	.....	3.19	.....	.....	.....	3.19
3.25 to 3.33..	8	6	.....	.....	8	6	3.308	3.327	.....	.....	3.306	3.327
3.50 to 3.58..	9	15	.....	.....	9	15	3.50	3.50	.....	.....	3.50	3.50
3.59 to 3.66..	.....	2	.....	.....	.....	2	.....	3.645	.....	.....	.....	3.615
3.67 to 3.74..	1	1	.....	.....	1	1	3.67	3.67	.....	.....	3.67	3.67
3.75 to 3.83..	1	.....	.....	.....	.....	1	.....	3.77	.....	.....	.....	3.77
4.00 to 4.08..	1	.....	.....	.....	.....	1	.....	4.00	.....	.....	.....	4.00
4.09 to 4.16..	1	.....	.....	.....	.....	1	.....	4.13	.....	.....	.....	4.13
4.17 to 4.24..	2	2	.....	.....	2	2	4.17	4.19	.....	.....	4.17	4.19
4.25 to 4.33..	1	1	.....	.....	1	1	4.25	4.25	.....	.....	4.28	4.25
4.50 to 4.58..	1	.....	.....	.....	1	1	.....	4.50	.....	.....	.....	4.50
4.75 to 4.83..	1	.....	.....	.....	1	1	4.80	.....	.....	.....	4.80	.....
4.92 to 4.99..	.....	1	.....	.....	.....	1	.....	4.95	.....	.....	.....	4.95
5.84 to 5.91..	1	.....	.....	.....	1	.....	5.84	.....	.....	.....	5.84	.....
6.75 to 6.83..	1	.....	.....	.....	1	.....	6.77	.....	.....	.....	6.77	.....
8.00 to 8.08..	1	.....	.....	.....	1	.....	8.08	.....	.....	.....	8.08	.....
8.42 to 8.49..	.....	1	.....	.....	.....	1	.....	8.42	.....	.....	.....	8.42
8.50 to 8.60..	.....	1	.....	.....	.....	1	.....	8.50	.....	.....	.....	8.50
11.00 to 11.03..	1	.....	.....	.....	1	1	.....	11.03	.....	.....	.....	11.03
Total	1,522	1,541	879	929	2,401	2,469	1.65	1.641	1.035	.991	1.45	1.397

Remarks.—This industry, one of the most important in the state, is seen to have experienced a steady growth for the years 1904 and 1905. For those establishments which reported, there was an increase of nearly 12 per cent. in 1905, in the amount invested in machinery, and of about 1 per cent. in the total capital invested. Two per cent. more persons were employed, and there was an increase of about 9 per cent. in the materials used, the wages and salaries paid, and the output. The product per employee also increased 6 per cent, and the average yearly earnings 7 per cent. Employment was very steady throughout each year, being in no month far from the maximum. Seventy-four per cent. of the value of the industry product, a high proportion, was paid in wages and salaries each year. Women were employed in many of the lighter and in several of the more specialized occupations. A number held the responsible positions of forewomen or of shipping clerks. Almost without exception the wages of women were lower than those of men engaged in the same occupations. The proportion of female help employed increased slightly in 1905. There was also an inconsiderable increase in their average hours of labor. In spite of this fact there was a decrease of about 4 per cent. in the average daily wages paid. In the case of the male employees, both the hours of labor and the daily wages paid showed a decrease.

8. BOXES, (PACKING)—20 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	11	9	— 2	18.18
Number of male partners.....	19	15	— 4	21.05
Number of female partners.....	1	2	+ 1	100.—
Total number of partners.....	20	17	— 3	15.00
Number of corporations.....	9	11	+ 2	22.22
Number of male stockholders.....	46	46	—	—
Number of female stockholders.....	6	8	+ 2	33.33
Total number of stockholders.....	52	54	+ 2	3.85
Total number of partners and stockholders..	73	71	— 1	1.39
Smallest number of persons employed.....	732	763	+ 31	4.24
Greatest number of persons employed.....	969	991	+ 22	2.27
Average number of persons employed.....	832	897	+ 65	7.81
Average days in operation.....	250	270	+ 20	8.00

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$151,050 00	\$159,285 10	+ \$8,235 10	5.45
Buildings and fixtures.....	91,218 53	95,476 61	+ 4,258 08	4.67
Machinery, etc.	173,891 98	189,406 44	+ 15,514 46	8.98
Cash and other capital.....	495,627 45	604,147 27	+ 108,519 82	21.90
Total	\$911,787 96	\$1,048,315 42	+ \$133,527 46	14.97

TABLE III A—VALUE OF MATERIAL AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Percent.
Raw material used.....	\$896,870 70	\$959,589 03	+ \$62,718 33	6.92
Other material used.....	80,945 42	85,596 42	+ 4,651 00	5.50
Wages	302,503 32	325,730 48	+ 23,227 16	7.68
Salaries	41,436 00	43,550 77	+ 2,114 77	5.10
Profit and minor expenses....	279,061 58	318,888 42	+ 39,826 84	14.27
Goods made and work done..	\$1,000,837 02	\$1,733,155 12	+ \$732,318 10	8.27

TABLE III B—ANALYSIS OF TABLE III A.

Classification,	1904,	1905.
Value of goods made and work done (gross product)	\$1,000,837 02	\$1,733,155,12
Value of stock used and material consumed in production	977,916 12	1,044,935 45
Industry products (gross production less value of stock and material)	623,020 90	688,169 67
Wages and salaries (Labor's direct share of product)	343,939 32	309,281 25
Profit and minor expense fund (industry product less wages)	279,061 58	\$18,888 42
Percentage of industry product paid in wages.....	Per cent. 55.21	Per cent. 53.66
Percentage of industry product devoted to profit and minor expenses	44.79	46.34

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,095 90	\$1,168 09	+ \$72 79	6.64
Average product per employee.....	1,924 08	1,932 17	+ 8 09	0.42
Average yearly earnings	363 59	368 13	— 0 46	0.13

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	732	763	75.54	76.99	24.46	23.01
February	753	785	77.71	79.21	22.29	20.79
March	794	878	81.94	88.60	18.06	11.40
April	851	919	87.82	91.83	12.18	8.17
May	541	939	86.79	94.75	13.21	5.25
June	879	901	90.71	100.—	9.29	.....
July	923	950	95.25	95.86	4.75	4.14
August	960	957	100.00	96.57	.....	3.43
September	849	890	87.62	89.51	12.38	10.19
October	812	892	83.30	30.01	16.20	9.99
November	795	904	82.04	91.22	17.97	8.78
December	785	904	81.01	91.22	18.99	8.78
Average	832	897	86.86	90.52	14.14	9.48

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours p r day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Balers	1	1	10	10	31.75	31.75	\$.175	\$.175	—	—
Basket makers	17	22	10	10	1.87	1.832	.187	.183	—	2.19
Box makers	20	30	9.60	9.50	1.092	1.33	.208	.133	—	33.27
Boys	45	3	10	10	.85	.625	.086	.063	—	26.99
Carpenters	1	1	10	10	2.00	3.00	.20	.30	+ 1.00	50.00
Coopers	3	4	10	10	1.53	1.912	.153	.191	+ 3.9	24.73
Engineers	6	5	10	10	2.228	2.163	.222	.216	—	2.63
Filers	7	8	10	10	2.78	2.469	.279	.247	—	12.84
Firemen	7	4	10.14	10	1.664	2.07	.166	.207	+ .406	24.40
Foremen	23	25	10	10	2.635	2.877	.263	.286	+ .02	7.07
Helpers	101	116	10	10	.911	.91	.091	.091	—	.11
Helpers, female	7	11	10	10	.70	.682	.07	.063	—	2.57
Laborers	456	547	9.98	9.93	1.301	1.296	.131	.132	—	.84
Machinists	10	11	10	10	2.615	2.18	.261	.218	—	16.57
Machine tenders	69	54	10	10	1.555	1.49	.155	.149	—	3.99
Millwrights	1	2	10	10	2.50	2.25	.25	.225	—	10.00
Nailers	6	6	10	8.89	1.50	2.194	.15	.217	+ .694	46.27
Sawyers	80	95	10	9.35	1.906	1.682	.191	.171	—	11.84
Shipping clerks	4	2	10	10	1.75	2.125	.175	.175	—	—
Sorters	3	—	10	—	1.839	—	.183	—	—	—
Stitchers, female	2	4	10	10	1.00	.75	.10	.075	—	25.00
Tallymen	2	3	10	10	2.25	2.00	.225	.20	—	11.11
Teamsters	11	19	10	10	1.856	1.632	.186	.163	—	10.45
Watchmen	7	5	11	10.40	1.498	.151	.149	.141	+ .017	1.14
Total and av.	936	989	9.99	9.95	1.388	1.392	.137	.140	+ .023	1.63

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.34 to \$.41...	2				2		\$.40				\$.40	
.42 to .49...	6				6		.45				.45	
.50 to .58...	23	16			23	16	.509	\$.518			.509	\$.518
.59 to .66...	33	13	6	10	39	23	.614	.616	\$.65	\$.65	.62	.637
.67 to .74...	3	16			3	16	.70	.681			.70	.631
.75 to .83...	131	128		4	131	130	.752	.773		.75	.752	.772
.84 to .91...	21	8			21	8	.855	.889			.855	.889
.92 to .99...	1				1		.95				.95	
1.00 to 1.09...	82	81	3	1	85	82	1.00	1.00	1.00	1.00	1.00	1.00
1.09 to 1.16...	18	15			18	15	1.143	1.143			1.143	1.143
1.17 to 1.24...		1				1		1.20				1.20
1.25 to 1.33...	96	154			96	154	1.252	1.256			1.252	1.256
1.34 to 1.41...	98	53			98	53	1.38	1.371			1.38	1.371
1.42 to 1.49...	6	4			6	4	1.45	1.45			1.45	1.45
1.50 to 1.58...	153	238			152	218	1.50	1.50			1.50	1.50
1.59 to 1.66...	43	53			43	53	1.607	1.615			1.607	1.615
1.67 to 1.74...	2	3			2	3	1.70	1.68			1.70	1.63
1.75 to 1.83...	104	67			104	67	1.754	1.756			1.754	1.753
1.84 to 1.91...	6	27			6	28	1.892	1.891			1.892	1.891
2.00 to 2.08...	52	37			52	37	2.00	2.002			2.00	2.003
2.09 to 2.16...	1				1		2.16				2.16	
2.17 to 2.24...	1				1		2.20				2.20	
2.25 to 2.33...	38	18			38	18	2.252	2.25			2.252	2.25
2.34 to 2.41...	19	17			19	17	2.50	2.50			2.50	2.50
2.42 to 2.49...	1	1			1	1	2.67	2.67			2.67	2.67
2.50 to 2.58...	5	10			5	10	2.767	2.755			2.767	2.755
2.59 to 2.66...	2	3			2	3	2.89	2.877			2.89	2.877
2.67 to 2.74...	7	11			7	11	3.00	3.00			3.00	3.00
2.75 to 2.83...		1				1	3.25	3.25			3.25	3.25
2.84 to 2.91...	1	1			1	1	3.40	3.40			3.40	3.40
2.92 to 3.00...	1				1		3.50				3.50	
3.01 to 3.08...	1	1			1	1	3.60	3.60			3.60	3.60
3.09 to 3.16...	1	1			1	1	4.25	4.25			4.25	4.25
3.17 to 3.24...		1				1	4.50				4.50	
3.25 to 3.33...		1				1	6.00				6.00	
Total and av.	957	974	9	15	966	990	1.374	1.403	.767	.70	1.363	1.332

Remarks.—The manufacture of packing boxes shows an increase for 1905, commensurate with the greater demand occasioned by the growth of the other manufacturing industries of the state. The tables show that the capital invested, the value of the materials used, the total output, the wages and salaries paid, the number of days of operation, and the average number of persons employed, all increased to the extent of from 7 to 15 per cent. There was a wide range of employment, the unemployment sometimes reaching as high a percentage as 24 per cent. January and February of each year were the months of least activity in this industry. Women were employed only in the minor occupations,—as helpers and stitchers. Sixty-seven

per cent. more were employed in 1905 than in 1904. The additional number were paid lower wages than the average wages for female help in 1904, and in consequence the average wages for women decreased from 77 cents to 70 cents for 1905. No change occurred in their hours of labor. On the other hand, the hours for men were somewhat less in 1905, while their wages increased about 2 per cent.

9. BOXES, (PAPER AND CIGAR)—12 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	5	6	+ 1	20.—
Number of male partners	7	9	+ 2	28.57
Number of female partners	1	1	—	—
Total number of partners	8	10	+ 2	25.—
Number of corporations	7	6	— 1	14.29
Number of male stockholders	29	26	— 3	10.34
Number of female stockholders	7	8	+ 1	14.29
Total number of stockholders	36	34	— 2	5.56
Total number of partners and stockholders	44	44	—	—
Smallest number of persons employed	709	739	+ 30	4.23
Greatest number of persons employed	846	833	— 13	1.54
Average number of persons employed	803	791	— 11	1.37
Average days in operation	293	299	+ 6	2.05

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$97,221 07	\$117,347 51	+ \$20,126 44	20.70
Buildings and fixtures	181,430 02	198,372 03	+ 16,952 01	9.34
Machinery, etc.	175,909 02	187,121 27	+ 11,852 25	6.75
Cash and other capital	410,871 49	417,007 51	+ 6,736 02	1.64
Total	\$904,781 00	\$920,448 32	+ \$35,607 32	3.94

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$543,925 54	\$539,615 57	— \$10,309 97	1.87
Other material used	85,358 04	35,863 25	+ 506 21	1.43
Wages	229,361 35	223,636 20	— 5,726 15	2.50
Salaries	66,425 48	66,509 00	+ 83 52	0.15
Profit and minor expenses.....	127,226 91	115,369 16	— 11,857 75	9.30
Goods made and work done ..	998,297 32	971,012 18	— 27,285 14	2.73

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross production).....	\$998,297 32	\$971,012 18
Value of stock used and material consumed in pro- duction	585,293 58	575,478 89
Industry product (gross production less value of stock and material)	413,013 74	395,533 36
Wages and salaries (Labor's direct share of pro- duct)	285,786 83	285,144 20
Profit and minor expense fund (Industry product less wages)	127,226 91	115,369 16
Percentage of industry product paid in wages.....	Per cent. 69.20	Per cent. 70.83
Percentage of industry product devoted to, profit and minor expenses	30.80	29.17

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,078 28	\$1,163 65	+ \$85 37	7.93
Average product per employee	1,244 76	1,227 58	— 17 19	1.38
Average yearly earnings	285 99	282 72	— 3.27	1.14

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	709	753	83.51	90.64	16.19	9.36
February	738	739	87.23	83.71	12.77	11.29
March	768	747	90.78	89.67	9.22	10.33
April	752	752	88.89	90.28	11.11	9.73
May	810	776	95.75	93.16	4.25	6.84
June	833	783	98.47	94.24	1.53	5.73
July	846	809	100.—	97.19	—	2.81
August	886	816	98.52	97.84	1.19	2.13
September	831	826	98.23	99.16	1.77	0.81
October	1845	833	99.88	100.—	0.12	—
November	888	828	99.05	99.40	0.95	0.60
December	823	822	97.28	98.63	2.72	1.37
Average	802	791	94.90	94.93	5.23	5.04

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904	1905	1904.	1905	1904.	1905.	Amt.	Per ct.
Apprentices	—	1	10	—	\$1.42	—	—	—	\$0.42	—
Box makers	114	107	9.86	9.71	\$1.475	1.407	\$1.49	1.45	—	0.63
Box makers, female	280	300	10	9.99	.777	.80	.078	.082	+	5.03
Boys	14	1	9.43	10	.643	1.00	.068	.10	+	35.7
Bronze brushers	2	10	—	—	.75	.075	—	—	—	—
Carpenters	1	2	10	9.5	1.17	1.75	.117	.184	+	58
Cutters	3	5	10	10	1.050	1.00	.105	.16	+	54.1
Dye makers	1	10	—	—	2.16	—	.216	—	—	—
Engineers	2	4	10	9.5	2.01	2.312	.20	.243	+	30.2
Feeders	6	16	10	10	1.875	1.475	.187	.147	+	10
Feeders, female	1	10	—	—	.75	.075	—	—	—	—
Firemen	1	1	10	10	2.80	2.25	.22	.225	+	.05
Foremen	8	7	9.63	9.71	2.383	2.714	.249	.278	+	31.5
Forewomen	2	10	—	—	1.395	—	.139	—	—	—
Girls	22	10	—	—	.75	.075	—	—	—	—
Gold leafers	3	10	—	—	.67	.067	—	—	—	—
Helpers	30	57	9.3	9.14	.692	1.00	.07	.109	+	30.3
Helpers, female	53	29	9.27	9.6	.687	.69	.069	.061	—	.097
Laborers	95	39	9.32	9.26	1.188	1.442	.11	.156	+	25.4
Lumber scaler	2	10	—	—	2.175	.217	—	—	—	—
Machine tenders	50	43	9.32	9.43	1.317	1.807	.116	.192	—	.04
Machine tenders, female	40	40	10	10	.925	1.125	.092	.112	+	.20
Machinists	7	11	10	10	2.892	2.409	.289	.241	—	.433
Pasters, female	—	58	—	9.95	—	.825	—	.083	—	—
Pressmen	10	4	10	10	1.441	2.562	.144	.256	+	1.121
Printers	2	2	10	9.5	1.00	2.00	.10	.21	÷	100
Printers' helpers	—	17	—	10	—	.515	—	.053	—	—
Sawyers	1	1	9	9	2.00	2.00	.222	.222	—	—
Scorers	1	1	10	10	2.50	2.00	.25	.30	—	.50
Shipping clerks	1	—	10	—	1.50	—	.15	—	—	—
Teamsters	6	6	10	9.83	1.641	1.607	.164	.17	+	.326
Trimmers	—	5	—	10	—	.70	—	.07	—	—
Trimmers, female	82	40	9.85	10	.695	.75	.072	.075	+	.055
Type setters	—	1	—	10	—	2.00	—	.20	—	—
Watchmen	4	3	10.5	10.67	1.487	1.567	.14	.146	+	.05
Total and av.	844	796	9.47	9.79	1.028	1.083	.103	.11	+	.055

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive.)	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904	1905.	1904.	1905.	1904	1905.	1904	1905.	1904.	1905.	1904.	1905.
\$0.33 or less.	.....	.....	2	.....	2	.....	.....	.....	\$0.275	.....	\$0.275	.....
.34 to .41..	.....	.....	19	.....	19	.....	.....	.....	.40	.....	.40	.....
.42 to .49..	.....	.....	1	.....	1	.....	.....	.....	.42	.....	.42	.....
.50 to .58..	15	21	69	76	84	97	\$0.50	.514	.501	.515	.503	.515
.59 to .68..	18	.....	20	20	38	30	.608	.....	.604	.614	.603	.624
.67 to .74..	22	36	70	108	98	199	.671	.674	.671	.679	.671	.678
.75 to .83..	47	30	190	115	237	145	.774	.80	.775	.786	.775	.789
.84 to .91..	.....	.....	7	10	7	10	.....	.....	.867	.88	.897	.88
.92 to .99..	1	.....	4	.....	5	.....	.96	.....	.957	.....	.953	.....
1.00 to 1.08..	39	31	51	59	120	90	1.00	1.00	1.00	1.00	1.00	1.01
1.09 to 1.16..	5	1	6	12	9	13	1.11	1.10	1.104	1.10	1.106	1.10
1.17 to 1.24..	4	3	4	4	8	7	1.117	1.17	1.17	1.17	1.173	1.17
1.25 to 1.33..	26	23	7	35	33	58	1.203	1.254	1.261	1.252	1.266	1.254
1.34 to 1.41..	3	.....	.....	.....	3	.....	1.376	.....	.....	.....	1.376	.....
1.42 to 1.49..	1	.....	.....	.....	1	.....	1.45	.....	.....	.....	1.45	.....
1.50 to 1.58..	53	63	1	2	54	60	1.50	1.50	1.50	1.50	1.50	1.50
1.59 to 1.66..	8	7	.....	.....	5	7	1.633	1.633	.....	.....	1.635	1.632
1.67 to 1.74..	9	6	1	1	11	7	1.67	1.67	1.67	1.67	1.67	1.67
1.75 to 1.83..	26	29	.....	18	28	47	1.756	1.76	.....	1.75	1.753	1.757
1.84 to 1.91..	7	4	.....	.....	7	4	1.88	1.88	.....	.....	1.88	1.88
2.00 to 2.08..	42	15	.....	.....	42	15	2.00	2.00	.....	.....	2.00	2.01
2.09 to 2.16..	5	8	.....	.....	5	8	2.136	2.13	.....	.....	2.130	2.12
2.17 to 2.24..	1	.....	.....	.....	1	.....	2.20	.....	.....	.....	2.20	.....
2.25 to 2.33..	3	33	.....	.....	3	33	2.276	2.25	.....	.....	2.276	2.25
2.34 to 2.41..	4	.....	.....	.....	4	.....	2.357	.....	.....	.....	2.357	.....
2.50 to 2.58..	12	9	.....	.....	13	9	2.50	2.50	.....	.....	2.50	2.50
2.75 to 2.83..	2	4	.....	.....	2	4	2.75	2.75	.....	.....	2.75	2.75
3.00 to 3.08..	5	7	.....	.....	5	7	3.00	3.00	.....	.....	3.00	3.00
3.25 to 3.33..	1	2	.....	.....	1	2	3.33	3.29	.....	.....	3.33	3.29
3.50 to 3.58..	2	.....	.....	.....	2	.....	3.50	.....	.....	.....	3.50	.....
3.59 to 3.66..	1	.....	.....	.....	1	.....	3.66	.....	.....	.....	3.66	.....
3.75 to 3.83..	.....	1	.....	.....	.....	1	3.75	.....	.....	.....	3.75	.....
Total ...	364	329	480	467	844	796	1.388	1.447	.754	.821	1.028	1.083

Remarks.—In spite of an increase of 6 per cent. in the capital invested in this industry there was a decrease of from 2 to 3 per cent. in 1905 in the material used, the total wages paid, and the output. This may have been due to an overstocking of the market in 1904. It is hardly probable that with the increasing use of paper and cigar boxes there was less demand for these articles in the later year. This industry is one carried on chiefly by female labor, as is natural in view of the character of the work required. Men, however, were employed in several of the same occupations as women, and in addition, in such accessory occupations as those of carpenters, engineers, teamsters, watchmen, etc. There were 116 more women than men employed in 1904, and 138 more than men in 1905. The hours of labor for

female help were very slightly shorter for 1905. Their average daily wages increased over 9 per cent. while those of male employes increased about 4 per cent. The low average daily wages for both male and female help each year is accounted for by the fact that a large proportion of the employees in this industry are minors. The percentage of the industry product paid in wages each year was unusually high—about 70 per cent.

10. BRASS GOODS—17 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	5	3	— 2	40.—
Number of male partners	6	3	— 3	50.—
Number of female partners	1	.....	— 1	100.—
Total number of partners	7	8	+ 1	57.36
Number of corporations	13	14	+ 1	18.63
Number of male stockholders	102	123	+ 21	20.59
Number of female stockholders	42	47	+ 5	11.90
Total number of stockholders	144	170	+ 26	18.05
Total number of partners and stockholders ..	151	173	+ 22	14.57
Smallest number of persons employed	937	1,032	+ 95	10.14
Greatest number of persons employed	1,146	1,316	+ 170	14.87
Average number of persons employed	1,021	1,160	+ 139	13.61
Average days in operation	310	316	+ 6	1.94

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$229,183 20	\$285,162 50	+ \$55,979 30	24.43
Buildings and fixtures	502,272 97	509,019 02	+ 6,746 05	13.29
Machinery, etc.	471,499 50	542,207 95	+ 70,708 45	15.00
Cash and other capital	1,762,391 53	1,575,723 83	— 186,667 70	10.59
Total	\$2,965,347 20	\$2,972,113 39	+ \$6,766 19	0.23

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Raw material used	\$345,297 78	\$1,126,926 55	+ \$281,628 77	33.32
Other material used	210,000 69	233,196 56	+ 12,595 90	5.98
Wages	519,794 41	615,765 30	+ 95,970 88	18.46
Salaries	190,963 58	215,544 83	+ 15,581 24	7.79
Profit and minor expenses...	460,214 28	538,361 51	+ 78,147 23	16.98
Goods made and work done..	\$2,235,870 67	\$2,719,794 79	+ 483,924 12	21.66

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904	1905.
Goods made and work done (gross production).....	\$2,235,870 67	\$2,719,794 79
Value of stock used and material consumed in pro- duction	1,065,898 40	1,350,123 07
Industry product (gross production less value of stock and material).....	1,179,972 27	1,369,671 73
Wages and salaries (Labor's direct share of product)	719,757 69	831,310 21
Profit and minor expense fund (industry product less wages)	460,214 28	538,361 51
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	61.00	60.70
Percentage of industry product devoted to profit and minor expenses	39.00	39.30

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905	Amount	Per cent.
Average capital per employee.....	\$2,904 36	\$2,563 17	— \$342 19	11.78
Average product per employee.....	2,189 88	2,344 65	+ 154 77	7.52
Average yearly earnings.....	509 10	530 83	+ 21 73	4.27

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	937	1,032	81.76	78.49	18.24	21.58
February	917	1,036	82.64	78.72	17.36	21.28
March	945	1,125	82.46	85.49	17.54	14.51
April	959	1,080	83.68	82.67	16.32	17.33
May	975	1,062	85.08	80.70	14.92	19.30
June	978	1,124	85.34	85.41	14.66	14.59
July	1,031	1,164	89.97	88.45	10.03	11.55
August	1,061	1,232	92.58	93.62	7.42	6.38
September	1,080	1,271	95.03	96.58	4.97	3.42
October	1,077	1,211	93.98	92.02	6.02	7.93
November	1,104	1,316	86.34	100.—	3.66	0.00
December	1,146	1,263	100.—	95.97	0.00	4.03
Average	1,021	1,100	89.09	81.15	10.91	18.85

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	70	45	10	9.38	\$.978	\$.948	\$.095	\$.065	— .31	32.36
Assemblers	19		9.53		2.263		.237			
Blacksmiths		2	10			2.25		.225		
Bookkeepers, female	1	1	9.50	7.5	.83	1.00	.087	.133	+ .17	37.48
Carpenters	11	10	10	10	2.272	2.20	.277	.22	— .072	3.17
Clerks	7	14	9.14	10	2.107	2.107	.23	.21		
Coppersmiths	6	5	8	8	2.733	2.72	.341	.34	— .011	.40
Coremakers	14	20	9.29	10	1.432	1.635	.159	.162	+ .143	9.05
Coremakers, female	10	8	10	9.67	1.20	1.28	.12	.131	+ .08	6.67
Coremakers, helpers	1	2	10	10	1.00	1.00	.10	.10		
Cutters		1	10			2.00		.20		
Electricians	22	23	0	10	1.977	2.282	.197	.228	+ .307	15.43
Electroplaters	2		0		2.375		.237			
Elevator men		1	10			2.00		.20		
Enamellers	14	18	8	8	1.75	1.75	.219	.219		
Enginemen	9	10	10	11.15	2.26	2.035	.226	.182	— .225	9.95
Finishers	27	69	9.74	9.81	2.413	2.167	.248	.219	— .246	10.19
Firemen	6	9	11.33	11.56	1.95	1.804	.172	.164	— .050	2.87
Fitters	1		9		2.50		.277			
Foremen	4	13	10.50	10	3.062	3.75	.291	.375	+ .688	22.49
Founders	11	6	10	9	2.74	1.85	.185	.20	— .87	32.48
Furnace tenders	2	3	10	10	1.875	1.867	.187	.183	— .008	.42
Grinders	2	1	10	10	1.56	2.00	.156	.20	+ .44	28.20
Helpers	113	224	9.74	9.92	1.273	1.504	.131	.151	+ .223	17.78
Helpers, female	50	20	10	10	.894	.99	.088	.099	+ .007	.68
Iron workers	2		10		2.25		.225			
Laborers	338	321	9.92	9.99	1.533	1.587	.155	.158	+ .048	3.01
Lathe hands	25	1	9.20	10	1.80	1.75	.195	.175	— .05	2.77
Machine tenders	38	58	10	10.19	1.628	1.888	.167	.185	+ .26	15.97
Machinists	180	69	9.98	10	2.223	2.40	.223	.24	+ .172	7.72
Machinists' helpers		10	10			1.56		.153		
Moulders	58	73	9.81	9.92	2.74	2.800	.279	.283	+ .067	2.53
Moulders' helpers	1	1	10	10	1.50	2.00	.15	.20	+ .50	33.33
Packers	9	14	10	10	1.50	1.48	.15	.148	— .02	1.33
Packers, female		4	10			1.125		.112		
Painters		3	10			1.833		.183		
Pattern makers	13	12	9.84	10	2.431	2.602	.25	.266	+ .201	8.17
Picklers		2	10			1.025		.102		
Platers	1	5	10	10	4.00	2.932	.40	.295	— 1.038	26.70
Plumbers	2	2	9	10	3.25	4.00	.361	.40	+ .75	23.09
Polishers	34	50	9.28	9.95	2.36	2.678	.243	.264	+ .508	11.36
Press hands	6	9	10	10	1.75	1.434	.175	.143	— .316	18.03
Pump makers		3	10			2.133		.213		
Sheet-iron workers		24	10			1.514		.151		
Shopmen		35	10			1.267		.126		
Solderers	5		10		2.133		.213			
Steam fitters	4	3	10	10	1.825	1.75	.182	.175	— .075	4.11
Steam fitters' helpers	1		10		1.65		.165			
Tenesters		1	10			1.75		.175		
Testers		4	10			1.307		.13		
Tinners		9	10			2.19		.219		
Toolmakers	9	11	9.66	9.99	2.528	2.95	.261	.297	+ .392	15.53
Valve makers		5	10			2.00		.20		
Watchmen	3	8	10.87	11.25	2.05	1.778	.188	.168	— .281	13.65
Winders	12	10	10	10	1.00	1.25	.17	.125	+ .25	25
Wire sewers, female	3	4	10	9	.64	.665	.064	.074	+ .025	3.91
Wire weavers	6	8	10	10	4.30	3.50	.43	.388	— .80	18.07
Wrappers	7		10		.85		.085			
Total	1,127	1,256	9.83	9.94	1.707	1.821	.181	.183	+ .05	2.52

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.50 to \$0.54.	13	50	.....	3	13	33	\$0.512	\$0.513	.....	\$0.553	\$0.512	\$0.522
.59 to .66.	.....	.....	3	.....	3	.....	.....	.....	0.64	.....	.64	.....
.67 to .74.	12	11	6	.....	18	.....	.67	.67	.67	.....	.67	.67
.75 to .83.	17	13	29	.....	46	13	.807	.78	.788	.....	.795	.78
.84 to .91.	13	.....	8	.....	13	8	.863	.....	.....	.85	.861	.85
.92 to .99.	.....	5	.....	.....	5	.....	.....	.92	.....	.....	.....	.91
1.00 to 1.08.	37	20	11	15	48	35	1.00	1.00	1.00	1.00	1.00	1.00
1.09 to 1.16.	3	.....	.....	.....	3	.....	1.13	.....	.....	.....	1.13	.....
1.17 to 1.24.	4	2	3	.....	7	.....	1.17	1.17	1.17	.....	1.17	1.17
1.25 to 1.33.	137	87	10	9	147	46	1.263	1.252	1.95	1.25	1.363	1.252
1.34 to 1.41.	31	7	.....	.....	31	7	1.351	1.392	.....	.....	1.351	1.392
1.50 to 1.58.	183	316	1	1	184	317	1.50	1.50	1.53	1.53	1.53	1.53
1.59 to 1.66.	43	240	1	.....	44	210	1.623	1.60	1.65	.....	1.624	1.69
1.67 to 1.74.	35	2	.....	.....	35	2	1.67	1.67	.....	.....	1.67	1.67
1.75 to 1.83.	154	105	.....	.....	154	105	1.755	1.751	.....	.....	1.755	1.751
1.84 to 1.91.	24	25	.....	.....	24	25	1.872	1.834	.....	.....	1.872	1.861
1.92 to 1.99.	2	.....	.....	.....	2	.....	1.95	.....	.....	.....	1.95	.....
2.00 to 2.08.	95	85	.....	1	95	86	2.00	2.00	.....	2.00	2.00	2.00
2.09 to 2.16.	1	2	.....	.....	1	2	2.15	2.14	.....	.....	2.15	2.14
2.17 to 2.24.	5	4	.....	.....	5	4	2.194	2.192	.....	.....	2.194	2.192
2.25 to 2.33.	42	95	.....	.....	42	95	2.232	2.25	.....	.....	2.232	2.25
2.34 to 2.41.	1	4	.....	.....	1	4	2.40	2.40	.....	.....	2.40	2.40
2.50 to 2.58.	96	69	.....	.....	96	69	2.50	2.53	.....	.....	2.50	2.53
2.59 to 2.66.	.....	2	.....	.....	.....	2	.....	2.65	.....	.....	.....	2.65
2.67 to 2.74.	1	1	.....	.....	1	1	2.67	2.67	.....	.....	2.67	2.67
2.75 to 2.83.	11	34	.....	.....	11	34	2.766	2.756	.....	.....	2.76	2.751
2.84 to 2.91.	.....	1	.....	.....	.....	1	.....	2.90	.....	.....	.....	2.90
3.00 to 3.08.	44	51	.....	.....	44	51	3.00	3.00	.....	.....	3.00	3.00
3.17 to 3.24.	2	2	.....	.....	2	2	3.25	3.20	.....	.....	3.20	3.20
3.25 to 3.33.	41	17	.....	.....	41	17	3.316	3.25	.....	.....	3.31	3.25
3.50 to 3.58.	4	18	.....	.....	4	18	3.50	3.50	.....	.....	3.50	3.50
3.75 to 3.83.	1	17	.....	.....	1	17	3.75	3.75	.....	.....	3.7	3.75
3.94 to 3.91.	.....	1	.....	.....	.....	1	.....	3.85	.....	.....	.....	3.85
4.00 to 4.08.	5	2	.....	.....	5	2	4.00	4.00	.....	.....	4.00	4.00
4.17 to 4.24.	.....	1	.....	.....	.....	1	.....	4.17	.....	.....	.....	4.17
4.25 to 4.33.	6	.....	.....	.....	6	.....	4.30	.....	.....	.....	4.3	.....
Total	1,063	1,219	64	37	1,137	1,256	1.818	1.84	.921	1.081	1.7	1.82

Remarks.—This industry shows a very substantial gain for 1905. A much larger proportion of the capital invested was employed in the permanent establishment of the industry, as is seen by the increase of 24 per cent. in the amount invested in land, of 13 per cent. in buildings, and of 15 per cent. in machinery. Thirty-three per cent. more material was used and 18 per cent. more paid in wages and salaries, while the value of the output was 21 per cent. greater than in 1904. There was also an increase of 8 per cent. in the average product per employee, and of 4 per cent. in the average yearly earnings of each. Female help is employed chiefly in the minor occupations in this industry. In 1905 there was a decrease of nearly one-half in the number em-

ployed. This accounts in part for the apparent increase of 12 per cent. in the average daily wages paid women in that year; since the decrease in the number employed occurred chiefly among those receiving less than \$1 00 per day. The hours for female help were somewhat shorter in 1905. The hours for male help increased slightly for the same year.

11. BRICK AND TILE—10 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms.....	2	2		
Number of male partners.....	5	5		
Number of female partners.....				
Total number of partners.....	5	5		
Number of corporations.....	5	8		
Number of male stockholders.....	20	24	— 2	7.69
Number of female stockholders.....	5	8	+ 3	60.—
Total number of stockholders.....	31	32	+ 1	3.23
Total number of partners and stockholders.....	36	37	+ 1	2.78
Smallest number of persons employed.....	49	71	+ 22	44.90
Greatest number of persons employed.....	625	542	— 83	13.28
Average number of persons employed.....	361	331	— 30	8.31
Average days in operation.....	211	214	+ 3	1.42

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$70,158 66	\$73,113 66	+ \$2,955 00	4.22
Buildings and fixtures	94,598 00	115,108 00	+ 20,510 00	21.68
Machinery, etc.	293,131 65	317,294 10	+ 24,162 45	8.24
Cash and other capital.....	135,240 46	107,097 95	— 27,542 51	20.37
Total	\$593,128 77	\$613,218 71	+ \$20,089 94	3.39

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$22,325 65	\$19,307 13	— \$3,018 52	13.52
Other material used	89,953 35	84,084 19	— 5,869 17	6.53
Wages	156,499 88	143,457 79	— 13,042 09	8.33
Salaries	34,820 95	34,450 00	— 370 95	1.07
Profit and minor expenses ..	58,654 79	47,201 12	— 11,453 67	19.70
Goods made and work done.	357,254 63	328,500 23	— 28,754 40	8.05

TABLE III B—ANALYSIS OF TABLE III A

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$357,254 63	\$328,500 23
Value of stock used and other material consumed in production	112,270 01	108,391 32
Industry product (gross production less value of stock and material)	244,975 62	225,108 91
Wages and salaries (Labor's direct share of product)	191,320 83	177,907 79
Profit and minor expense fund (industry product, less wages)	53,654 79	47,201 12
Percentage of industry product paid in wages	Per cent. 78.10	Per cent. 79.03
Percentage of industry product devoted to profit and minor expenses	21.90	20.97

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,643 02	\$1,852 62	+ \$209 60	12.76
Average product per employee	999 63	992 45	+ 2 82	0.29
Average yearly earnings	433 52	433 41	— 0 11	0.03

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	49	120	7.84	22.14	92.16	77.86
February	68	71	10.88	13.10	89.12	86.90
March	154	142	24.64	20.90	75.36	73.80
April	291	288	46.56	53.14	53.44	41.83
May	481	506	76.96	93.36	23.04	6.64
June	552	541	88.32	99.82	11.68	0.18
July	610	542	98.56	100.00	1.44	.....
August	635	580	100.00	99.45	.....	0.55
September	570	495	91.20	91.33	8.80	8.67
October	495	372	79.20	68.63	20.80	31.37
November	304	214	48.64	39.48	51.36	60.52
December	131	139	20.96	25.63	79.04	74.35
Average	361	331	57.70	61.07	42.24	38.93

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904	1905	1904.	1905.	1904	1905.	1904.	1905.	Amt.	Per ct.	
Boys	62	36	10	10	\$.794	\$.751	\$.079	\$.075	—	\$.043	5.42
Burners	17	19	11.70	10.05	2.16	2.16	.183	.214			
Blacksmiths	1	1	10	10	2.15	2.15	.215	.215			
Carpenters	4	3	10	10	2.012	1.966	.201	.190	—	.046	2.29
Catchers	3	5	10	10	1.65	1.65	.165	.165			
Dumppers	11	12	9.09	10	1.75	1.79	.192	.179	+	.04	2.28
Edgers	7	2	10	10	.75	1.00	.075	.10	+	.25	33.33
Engineers	7	8	11	11.57	2.06	2.266	.187	.196	+	.205	9.95
Feeders	9	1	10	10	1.533	1.75	.153	.175	+	.217	14.15
Firemen	4	5	12	11.6	2.00	2.00	.166	.172			
Foremen	2	2	10	10	2.025	2.10	.202	.21	+	.075	3.57
Grinders	1	1	10	10	1.66	1.66	.166	.166			
Helpers	12	23	11.67	10.87	1.84	1.776	.157	.163	—	.054	.217
Jiggermen	1	1	10	10	1.66	1.66	.166	.166			
Labors	149	122	10	10	1.632	1.656	.163	.165	+	.024	1.47
Ladders	20	21	10	10	1.567	1.624	.156	.162	+	.037	2.33
Layers	1	1	10	10	2.15	2.15	.215	.215			
Machinists	7	3	10	10	2.27	1.936	.227	.193	—	.334	14.71
Masons		4		10	3.625		.362				
Moldworkers		1		10	1.10		.11				
Pilers			10		1.566		.156				
Pressmen	2	2	10	10	1.60	1.75	.16	.175	+	.15	9.31
Priggers		6		10	1.775		.175				
Rackmen	4	3	10	10	1.90	1.90	.19	.19			
Repairers	2		10		1.75		.175				
Sand burners	4	4	10	10	1.00	1.025	.10	.102	+	.025	2.50
Sanders	4	2	10	10	1.50	1.75	.15	.175	+	.25	16.67
Setters	20	22	10	10	2.137	2.107	.213	.21	—	.037	1.74
Shovelers	44	42	10	10	1.657	1.667	.165	.166	+	.01	.603
Sorters	12	9	10	10	2.008	2.111	.20	.211	+	.103	5.13
Strikers	13	8	9.23	10	1.865	1.95	.202	.195	+	.095	4.75
Strippers	8		10		1.65		.165				
Teamsters	31	22	10	10.18	1.58	1.637	.158	.16	+	.057	3.60
Timekeepers, female		1		8		.95		.106			
Truckers	56	44	10	10	1.65	1.65	.165	.165			
Watchmen	1		12		1.40		.116				
Wheelers	89	73	10	10	1.673	1.686	.167	.168	+	.006	.48
Totals	613	515	10.08	10.10	\$1.607	\$1.681	\$.150	\$.166	+	\$.075	4.66

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58..	3	3			3	3	\$.50	\$.50			\$.50	\$.50
.59 to .66..	8	4			8	4	.643	.65			.643	.65
.75 to .83..	40	23			40	23	.75	.75			.75	.75
.84 to .91..	4	3		1	4	4	.90	.887		\$.85	.90	.887
1.00 to 1.08..	19	8			19	8	1.00	1.00			1.00	1.00
1.09 to 1.16..	1	3			1	3	1.10	1.116			1.10	1.116
1.25 to 1.33..	4	3			4	3	1.27	1.25			1.27	1.25
1.34 to 1.41..	5				5		1.38				1.38	
1.50 to 1.59..	113	60			113	60	1.527	1.529			1.527	1.529
1.59 to 1.66..	217	186			217	186	1.65	1.646			1.65	1.646
1.67 to 1.74..		9				9		1.74				1.74
1.75 to 1.83..	101	113			101	113	1.752	1.751			1.752	1.751
1.84 to 1.91..	25	21			25	21	1.888	1.90			1.888	1.90
1.92 to 1.99..		2				2		1.935				1.935
2.00 to 2.08..	89	39			89	39	2.002	2.00			2.002	2.00
2.09 to 2.16..	14	12			14	12	2.15	2.15			2.15	2.15
2.25 to 2.33..	11	10			11	10	2.263	2.265			2.263	2.265
2.34 to 2.41..	2	2			2	2	2.40	2.40			2.40	2.40
2.50 to 2.58..	2	5			2	5	2.50	2.50			2.50	2.50
2.59 to 2.66..	2	1			2	1	2.655	2.65			2.655	2.65
3.00 to 3.08..	1	4			1	4	3.00	3.00			3.00	3.00
3.25 to 3.33..	1	1			1	1	3.25	3.25			3.25	3.25
3.50 to 3.58..		1				1		3.50				3.50
4.00 to 4.08..	1				1		4.00				4.00	
5.00 to 5.09..		1				1		5.00				5.00
Total....	613	514		1	613	515	\$1.607	\$1.632		\$.85	\$1.607	\$1.632

Remarks.—Although there was 3 per cent. more capital invested in this industry in 1905 than in 1904, 8 per cent. fewer persons were employed, and in consequence there was a decrease of 8 per cent. in the materials used, the total wages paid, and the output. Whether the employment of fewer workmen in 1905 was due to the impossibility of securing the necessary help at the proper time, or to the over-supplying of the market in 1904, it is not possible to ascertain from the returns made by the establishments. The former explanation appears the more probable in view of the fact that this industry is carried on chiefly in the summer and autumn, only a few employees being retained through the winter. Thus the percentage of unemployment reached 92 per cent. in January of 1904. Many workmen might therefore fail to return to this industry in the spring if offered higher wages elsewhere. Although 5 per cent. higher daily wages were paid in this industry in 1905 than in 1904, they were still about 7 per cent. lower than the average daily wages paid men in all industries the same year. With one exception, no female help was employed in either year.

12. BROOMS AND BRUSHES—7 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	5	5		
Number of male partners	5	5		
Number of female partners				
Total number of partners	5	5		
Number of corporations	2	2		
Number of male stockholders	4	8	+ 4	100.—
Number of female stockholders	2	3	+ 1	50.—
Total number of stockholders	6	11	+ 5	83.33
Total number of partners and stockholders	11	16	+ 5	45.45
Smallest number of persons employed	68	61	— 7	10.29
Greatest number of persons employed	73	68	— 7	9.59
Average number of persons employed	72	64	— 8	11.11
Average days in operation	282	279	— 3	1.06

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$8,500 00	\$9,400 00	+ \$900 00	10.59
Buildings and fixtures	16,861 00	22,645 00	+ 5,784 00	34.30
Machinery, etc.	16,855 20	18,046 50	+ 1,191 30	7.28
Cash and other capital	62,201 53	54,908 50	— 7,293 03	11.73
Total	\$104,417 73	\$104,995 00	+ \$577 27	0.55

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$54,030 78	\$52,737 69	— \$1,292 79	2.39
Other material used	4,069 10	3,774 00	— 1,195 10	24.05
Wages	30,511 23	26,735 19	— 3,776 04	12.38
Salaries	9,907 00	8,176 88	— 1,730 12	17.45
Profit and minor expenses	27,498 33	22,347 43	— 5,150 90	17.36
Goods made and work done	124,916 44	113,771 49	— 11,144 95	8.92

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$124,916 44	\$113,771 49
Value of stock used and material consumed in production	58,990 88	56,511 99
Industry product (gross production less value of stock and material)	65,916 56	57,259 50
Wages and salaries (Labor's direct share of product)	40,418 23	34,912 67
Profit and minor expense fund (Industry product less wages)	25,498 33	22,124 23
Percentage of industry product paid in wages	Per cent. 61.32	Per cent. 60.97
Percentage of industry product devoted to profit and minor expenses	38.68	39.03

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$1,450 25	\$1,640 55	+ \$190 30	13.12
Average product per employee	1,734 95	1,777 09	+ 42 14	2.43
Average yearly earnings	423 77	417 74	— 6 03	1.49

TABLE V. RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1901.	1905	1904.	1905.	1901.	1905.
January	73	61	100.00	92.43	.....	7.57
February	73	62	100.—	93.94	.....	6.06
March	73	64	100.—	96.97	.....	3.03
April	72	63	98.03	95.40	1.37	4.44
May	70	62	95.89	93.04	4.11	6.06
June	69	62	94.53	93.94	5.47	6.06
July	70	65	95.89	98.49	4.11	1.51
August	69	64	94.53	96.97	5.47	3.03
September	68	63	93.15	95.46	6.85	4.54
October	70	63	95.89	95.46	4.11	4.54
November	72	63	98.03	95.46	1.57	4.54
December	71	66	97.26	100.—	2.74	.....
Average	72	64	98.08	96.97	1.37	3.03

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt	Per ct.
Binders	2	8			\$1.50		\$1.87			
Broom makers	11	13	10	9.85	1.613	\$1.838	.161	\$.186	+ \$.218	13.47
Broom winders		2		10		2.00		.20		
Brush makers	27	16	10	10.06	1.035	1.156	.103	.114	+ .121	11.60
Engineers	2	1	10.5	11	1.925	1.75	.181	.159	— .175	9.09
Foremen		1		10		2.00		.20		
Graders	2	1	10	10	1.45	1.25	.145	.125	— .50	16.
Graders, female	2		10		1.00		.10			
Helpers	7	13	10	10	.679	.903	.067	.09	+ .221	32.98
Helpers, female		2		10		.75		.075		
Hurl cutters	2	1	10	10	.67	.67	.067	.03	— .07	11.11
Sewers	6	6	9.33	9.58	1.156	1.282	.124	.135	+ .134	11.57
Sizers	1	1	6	8	.35	.50	.058	.062	+ .15	42.86
Sorters	4	4	10	10	.775	.813	.077	.081	+ .035	4.90
Sorters, female	1			10		.75		.075		
Tiers	7	5	9.71	9.5	1.872	1.68	.193	.175	— .192	10.25
Total	74	65	9.82	9.89	1.187	1.295	.121	.131	+ .108	9.09

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904	1905	1904	1905	1904	1905	1904	1905	1904	1905	1904	1905
\$.20 to \$.41 ..	1				1		\$.35				\$.35	
.42 to .49 ..		3				3		\$.446				\$.446
.50 to .58 ..	7	2			7	2	.50	.50			.50	.50
.59 to .63 ..	1	2			1	2	.60	.636			.60	.605
.67 to .74 ..		2				2		.67				.67
.75 to .83 ..	19	8	1	2	20	10	.78	.798	\$.75	\$.75	.798	.783
.84 to .91 ..	2				2		.97				.875	
1.00 to 1.08 ..	2	8	2		4	8	1.00	1.00	1.00		1.00	1.03
1.00 to 1.16 ..	3	2			3	2	1.117	1.10			1.117	1.10
1.17 to 1.24 ..	1	1			1	1	1.20	1.17			1.20	1.17
1.25 to 1.33 ..	5	5			5	5	1.30	1.28			1.30	1.28
1.34 to 1.41 ..	1	2			1	2	1.35	1.40			1.35	1.40
1.50 to 1.58 ..	6	6			6	6	1.606	1.50			1.50	1.50
1.59 to 1.63 ..	10	1			10	1	1.63	1.63			1.63	1.63
1.75 to 1.83 ..	7	10			7	10	1.614	1.774			1.714	1.774
1.84 to 1.91 ..	1	3			1	3	1.85	1.897			1.85	1.897
1.92 to 1.99 ..	1				1		1.93				1.93	
2.00 to 2.08 ..	3	5			3	5	2.00	2.01			2.00	2.012
2.09 to 2.16 ..	1	1			1	1	2.10	2.10			2.10	2.10
2.17 to 2.24 ..		1				1		2.17				2.17
2.25 to 2.49 ..		1				1		2.48				2.48
Total and av.	71	63	3	2	74	65	\$1.196	\$1.312	\$.917	\$.75	\$1.18	\$1.235

Remarks.—Although there was a substantial increase in the amount of capital devoted to investment in land and buildings, this industry shows a loss for 1905 in the material used, the number of persons employed, the total wages paid, and the output. The decrease was probably due to an over-stocked market. Employment was exceptionally uniform each year, the greatest percentage of unemployment for any month being less than 8 per cent. Of the industry product, 61 per cent. was paid in wages each year. There was an increase of 9 per cent. in the average daily wages of all employees. The average wages paid in this industry were very low, owing chiefly to the large number of minors employed. Only 3 women were employed in 1904, and only 2 in 1905.

13. CHAIRS—10 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	2	2		
Number of male partners	2	3	+ 1	50.00
Number of female partners	1	2	+ 1	100.00
Total number of partners	3	5	+ 2	66.67
Number of corporations	8	8		
Number of male stockholders	181	198	+ 17	9.40
Number of female stockholders	30	31	+ 1	3.33
Total number of stockholders	211	229	+ 18	8.53
Total number of partners and stockholders	214	234	+ 20	9.35
Smallest number of persons employed	2,214	2,254	+ 40	1.81
Greatest number of persons employed	2,333	2,419	+ 86	3.69
Average number of persons employed	2,274	2,337	+ 63	2.77
Average days in operation	287	293	+ 6	2.09

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$301,952 00	\$305,652 00	+ \$3,700 00	1.23
Buildings and fixtures	533,721 51	559,603 91	+ 25,882 40	4.85
Machinery, etc.,	607,491 38	602,444 45	+ 24,953 07	3.74
Cash and other capital	1,010,421 25	1,318,000 31	+ 307,579 06	30.44
Total	\$2,513,586 14	\$2,875,700 67	+ \$362,114 53	14.41

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$1,215,048 64	\$1,228,562 29	+ \$7,913 65	0.65
Other material used	184,233 79	165,674 45	+ 1,440 66	0.88
Wages	957,722 50	1,010,064 95	+ 52,332 36	5.46
Salaries	142,030 24	119,076 56	+ 6,056 32	4.26
Profit and minor expenses ..	459,021 79	467,121 36	+ 7,496 57	1.63
Goods made and work done.	2,939,250 05	3,014,489 61	+ 75,239 56	2.50

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods and work done (gross product).....	\$2,939,250 05	\$3,014,489 61
Value of stock used and other material consumed in production	1,379,882 43	1,389,235 74
Industry product (gross product less value of stock and material)	1,560,367 62	1,625,252 87
Wages and salaries (Labor's direct share of pro- duct)	1,009,742 83	1,158,131 51
Profit and minor expense fund (Industry product less wages)	459,624 79	467,121 36
Percentage of industry product paid in wages.....	Per cent. 70.52	Per cent. 71.26
Percentage of industry product devoted to profit and minor expenses	29.48	28.74

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,105 30	\$1,280 54	+ \$125 18	11.32
Average product per employee	1,292 55	1,289 90	— 2 65	0.20
Average yearly earnings	421 12	432 20	+ 11 08	2.63

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	2,273	2,266	97.43	53.68	2.57	4.32
February	2,267	2,289	97.93	94.25	2.27	5.75
March	2,317	2,316	99.31	95.74	.69	4.26
April	2,333	2,361	100.00	97.73	.....	2.27
May	2,315	2,381	99.23	99.55	.77	1.45
June	2,227	2,272	95.46	98.92	4.54	6.05
July	2,214	2,254	91.90	93.18	5.10	6.82
August	2,248	2,326	96.36	93.16	3.64	3.84
September	2,274	2,389	96.61	98.39	3.39	1.61
October	2,267	2,419	97.73	100.00	2.27	.....
November	2,305	2,414	98.80	99.79	1.20	.21
December	2,364	2,395	97.04	97.77	2.96	2.23
Average	2,274	2,337	97.47	93.61	2.53	3.59

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Bench hands	235	270	10	10	\$1.229	\$1.261	\$.123	\$.126	+	\$.032	2.63
Benders	32	34	10	10	1.291	1.35	.129	.135	+	.059	4.57
Blacksmiths	4	5	10	10	1.625	1.70	.163	.17	+	.075	4.62
Borers	45	47	10	10	1.204	1.22	.12	.122	+	.016	1.33
Cabinet makers	4	3	10	10	1.65	1.65	.165	.165			
Canners	70	70	10	10	1.25	1.25	.15	.125			
Carpenters	8	9	10	10	1.575	1.556	.156	.156	—	.019	1.21
Carvers	5	8	10	10	2.40	2.074	.24	.207	—	.326	13.53
Chair makers	38	47	10	10	1.075	1.624	.108	.162	—	.061	3.04
Cheese box binders	3	6	10	10	1.40	1.15	.14	.115	—	.250	17.86
Cheese box nailers	4		10		.90		.03				
Decorators	2	2	10	10	1.55	1.55	.155	.155			
Decorators, female	2	2	10	10	.90	.90	.09	.09			
Dippers	15	14	10	10	1.25	1.271	.125	.127	+	.021	1.63
Dowellers	25	2	10	10	1.15	1.10	.115	.11	—	.050	4.35
Dryers	4		10		1.20		.12				
Engineers	4	4	10.13	10	2.408	2.435	.24	.244	+	.027	1.12
Fillers	4	6	10	10	1.75	1.79	.175	.179	+	.040	2.29
Fillers	20	25	10	10	1.05	1.09	.105	.108	+	.039	2.86
Firemen	12	12	10.67	10	1.388	1.33	.138	.138	—	.008	.58
Foremen	76	89	10	10	2.339	2.368	.234	.237	+	.029	1.24
Helpers	267	249	10	10	.966	1.01	.097	.101	+	.044	4.56
Helpers, female	57	74	10	10	.762	.761	.072	.076	—	.001	.13
Laborers	593	616	10	10	1.234	1.241	.123	.124	+	.007	.57
Laborers, female	3	8	10	10	.793	.809	.079	.087	+	.076	9.53
Lathe hands	22	20	10	10	1.25	1.25	.125	.125			
Lumber pilers	15	15	10	10	1.033	1.033	.106	.106			
Machine tenders	270	281	10	10	1.365	1.338	.137	.137	+	.033	.22
Machinists	2	6	10	10	1.50	1.436	.15	.146	—	.042	2.83
Markers		4	10	10	.70		.07				
Milers	2	2	10	10	1.35	1.35	.135	.135			
Packers	1	3	10	10	1.00	1.25	.10	.125	—	.250	25.00
Painters	83	113	10	10	1.417	1.467	.142	.147	+	.050	3.53
Pearl placers		1	10	10	1.00	1.00	.10	.10			
Pearl placers, female	1		10		1.00		.10				
Piece workers	13	14	10	10	1.904	1.911	.19	.191	+	.007	.37
Planers	11	17	10	10	1.432	1.285	.143	.129	—	.147	10.27
Pollishers	87	94	10	10	1.271	1.262	.127	.126	—	.009	.71
Rubbers	48	30	10	10	1.068	1.023	.11	.102	—	.075	6.83
Sanders	125	123	10	10	1.154	1.20	.115	.12	+	.046	3.99
Sawyers	117	127	10	10	1.531	1.624	.153	.162	+	.018	2.72
Scalers	2	2	10	10	2.25	2.25	.225	.225			
Scrapers	8	13	10	10	1.35	1.46	.135	.143	+	.110	8.15
Scoopers	6	6	10	10	1.00	1.00	.10	.10			
Seat makers	2	2	10	10	1.75	1.75	.175	.175			
Shapers	10	10	10	10	1.42	1.416	.142	.142	—	.004	.29
Shippers	43	44	10	10	1.166	1.139	.117	.114	—	.027	2.32
Shippers, female	44	45	10	10	.48	.483	.048	.048	+	.003	.63
Teamsters	15	15	10	0	1.637	1.667	.161	.167	+	.060	3.73
Timekeepers	1	1	10	10	1.50	1.50	.15	.15			
Turners	130	101	10	10	1.516	1.559	.152	.156	+	.045	2.93
Upholsterers	8	14	10	10	1.404	1.234	.14	.123	—	.176	12.11
Varnishers	92	92	10	0	1.339	1.412	.133	.141	+	.053	6.25
Varnishers, female	41	43	10	10	.906	.816	.082	.082	+	.016	1.24
Wagon makers		1	10	10	2.00		.20				
Warehousemen		9	10	10	1.25		1.25				
Watchmen	8	8	11.25	11	1.406	1.443	.13	.131	—	.023	1.57
Wood workers	29	36	10	10	1.30	1.30	.13	.13			
Wrappers	17	12	10	10	.614	.669	.061	.067	+	.055	8.96
Wrappers, female	76	77	10	10	.572	.615	.057	.062	+	.048	7.32
Yardmen	7	9	10	10	1.35	1.37	1.35	1.37	+	.020	1.43
Total and average.	3,871	3,991	10	10	1.255	1.281	.126	.128	+	.026	2.07

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1901.		1905.		1901.		1904.		1905.		1904.	
	1901.	1905.	1904.	1905.	1901.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.34 to \$.41.....					7	5					\$.357	\$.35
.42 to .49.....					25	23					.45	.459
.50 to .58.....					54	56					.501	.508
.59 to .66.....					17	16					.636	.613
.67 to .74.....					6	37					.70	.70
.75 to .81.....					42	31					.777	.763
.84 to .91.....					14	24					.871	.877
.92 to .99.....					9	2					.95	.95
1.00 to 1.08.....					142	125					1.017	1.00
1.09 to 1.16.....					407	328					1.118	1.124
1.17 to 1.24.....					584	251					1.229	1.199
1.25 to 1.33.....					624	1,107					1.264	1.263
1.34 to 1.41.....					243	224					1.368	1.368
1.42 to 1.49.....					9	26					1.45	1.449
1.50 to 1.58.....					201	225					1.501	1.503
1.59 to 1.66.....					55	48					1.640	1.648
1.67 to 1.74.....					3	2					1.70	1.67
1.75 to 1.83.....					92	118					1.768	1.750
1.84 to 1.91.....					4	5					1.88	1.874
2.00 to 2.08.....					81	87					2.00	2.00
2.09 to 2.16.....					21	23					2.15	2.12
2.25 to 2.33.....					19	28					2.25	2.25
2.50 to 2.58.....					17	30					2.50	2.50
2.75 to 2.83.....					3	2					2.75	2.75
3.00 to 3.08.....					11	12					3.00	3.00
4.00 to 4.08.....					2	2					4.00	4.00
Total and average	2,647	3,742	224	249	2,871	2,991	1,305	1,235	.653	.68	1.955	1.981

Remarks.—The substantial growth experienced by this industry in the years 1904 and 1905 is evidenced by the increase of 14 per cent. in the capital invested, of 3 per cent. in the number of persons employed, of 5 per cent. in the total wages and salaries paid, and of 3 per cent. in the output. A large proportion of the industry product was paid in wages each year,—about 71 per cent. Employment was remarkably uniform throughout the two years, 6 per cent. being the maximum of unemployment in any month. A large number of children were employed in this industry. Female help was also employed, to the extent of about 8 per cent. of the total number of employees. The average daily wages paid in this industry were consequently low. All female help worked 10 hours per day each year. With but two exceptions all were employed in minor occupations.

14. CIGARS—46 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms.....	43	40	— 3	
Number of male partners.....	53	51	— 2	3.77
Number of female partners.....				
Total number of partners.....	53	51	— 2	3.77
Number of corporations.....	4	6	+ 2	50.—
Number of male stockholders.....	16	25	+ 9	56.25
Number of female stockholders.....	3	3		
Total number of stockholders.....	19	28	+ 9	47.37
Total number of partners and stockholders.....	72	79	+ 7	9.72
Smallest number of persons employed.....	756	693	— 63	8.33
Greatest number of persons employed.....	804	768	— 36	4.48
Average number of persons employed.....	783	735	— 48	6.13
Average number of days in operation.....	296	291	— 5	1.69

TABLE II—INVESTMENT.

Classification.	Capital Invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$36,296 66	\$40,600 00	+ \$4,313 34	11.89
Buildings and fixtures.....	88,348 36	88,575 24	+ 226 88	0.26
Machinery, etc.	14,221 73	14,809 43	+ 587 70	4.13
Cash and other capital.....	422,003 58	404,985 84	— 17,017 74	4.06
Total	\$560,869 33	\$548,970 51	— 11,899 82	2.12

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used.....	\$444,400 04	\$414,484 04	— \$29,916 00	6.73
Other material used.....	74,191 43	64,068 79	— 10,122 64	13.62
Wages	312,052 16	288,803 21	— 24,148 95	7.72
Salaries	66,075 53	66,112 37	+ 36 84	0.06
Profit and minor expenses....	299,968 81	277,371 57	— 22,597 24	7.53
Goods made and work done..	\$1,197,587 97	\$1,110,859 98	— \$86,727 99	7.24

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$1,197,587 97	\$1,110,856 98
Value of stock used and material consumed in production	518,501 47	478,572 83
Industry product (gross production less value of stock and material).....	678,996 50	632,287 15
Wages and salaries (Labor's direct share of product)	379,027 60	354,915 58
Profit and minor expense fund (Industry product less wages)	299,968 81	277,371 57
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	55.82	56.13
Percentage of industry product devoted to profit and minor expenses	44.18	43.87

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$716 30	\$746 90	+ \$30 60	4.27
Average product per employee.....	1,529 49	1,511 37	— 18 12	1.19
Average yearly earnings	399 63	392 93	— 6 75	1.69

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	759	693	94.40	90.23	5.60	9.77
February	735	721	97.64	93.83	2.36	6.12
March	802	735	99.75	94.40	0.25	5.60
April	789	731	98.13	95.18	1.87	4.83
May	802	727	99.75	94.66	0.25	5.31
June	804	740	100.—	96.35	0.00	3.65
July	773	729	96.14	94.92	3.86	5.08
August	770	768	95.77	100.—	4.23	0.00
September	756	737	94.03	95.96	5.97	4.04
October	793	736	98.63	95.83	1.37	4.17
November	794	750	98.76	97.06	1.24	2.94
December	772	744	96.02	96.89	3.98	3.12
Average	783	735	97.39	95.70	2.61	4.30

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total No. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentice	8	22	8.23	8.23	\$.496	\$.587	\$.059	\$.071	+ \$.001	18.34
Apprentice, female...	12	2	9	9	.708	.35	.079	.039	— .368	50.56
Bunch makers	2		9		.70		.078			
Bunch makers, female	112	94	8.14	8.10	1.134	1.209	.129	.149	+ .075	6.61
Cigar makers	429	377	8.21	8.25	2.124	2.084	.259	.253	— .04	1.88
Cigar makers, female	17	49	8.65	8.27	1.438	2.00	.166	.242	+ .074	39.27
Foremen	3		8.67		3.61		.416			
Helpers	20	12	8.25	8.67	.556	.59	.067	.068	+ .005	6.30
Helpers, female	3	7	9	9.43	.40	.043	.044	.068	+ .243	60.75
Packers	4	13	8	8	2.983	3.385	.387	.423	+ .036	15.41
Packers, female	6	14	8	8.64	.958	.845	.119	.098	— .113	11.78
Rollers, female	15	9	9	9	.67	1.111	.074	.123	+ .041	65.07
Strippers	54	55	8.48	8.22	.617	.584	.072	.071	— .001	4.73
Strippers, female	103	118	8.27	8.49	.579	.609	.07	.072	+ .002	5.18
Total and averages	788	772	8.27	8.30	1.548	1.544	.187	.188	— .001	.22

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 and less	5	3	3	5	8	8	\$.274	\$.33	\$.32	\$.324	\$.291	\$.326
.33 to .41..	8	19	38	22	46	41	.379	.38	.392	.391	.39	.33
.42 to .49..	2	4	10	1	12	5	.43	.437	.443	.45	.441	.438
.50 to .58..	35	32	37	27	75	59	.536	.51	.512	.506	.508	.508
.59 to .66..	6	12	5	51	11	63	.632	.61	.612	.647	.636	.639
.67 to .74..	12	3	5	8	17	11	.693	.67	.693	.698	.694	.69
.75 to .83..	7	10	22	9	29	19	.773	.79	.754	.776	.758	.795
.84 to .91..	6	3	11	5	17	8	.878	.883	.876	.85	.87	.863
.92 to .99..			2	1	2	1			.96	.92	.96	.92
1.00 to 1.08..	14	6	62	66	76	72	1.00	1.00	1.00	1.001	1.00	1.001
1.09 to 1.16..	1	5			1	5	1.15	1.15			1.15	1.15
1.17 to 1.24..		5				5		1.17				1.17
1.25 to 1.33..	13	19	43	9	50	28	1.273	1.288	1.251	1.25	1.256	1.276
1.34 to 1.41..	10	7	1		11	7	1.385	1.40	1.40		1.396	1.40
1.42 to 1.49..	47	31	24	51	71	82	1.511	1.50	1.507	1.50	1.509	1.51
1.50 to 1.58..	7	5	2	1	9	6	1.627	1.60	1.65	1.62	1.62	1.63
1.59 to 1.66..	16	11		2	16	13	1.699	1.684		1.70	1.699	1.686
1.67 to 1.74..	48	38	2		50	33	1.77	1.778	1.75		1.769	1.778
1.75 to 1.83..	10	10			10	10	1.857	1.87			1.857	1.875
1.84 to 1.91..	8	4			8	5	1.949	1.945		1.95	1.949	1.946
1.92 to 1.99..	66	80		1	67	104	2.00	2.008		2.00	2.00	2.006
2.00 to 2.08..	12	7			12	7	2.133	2.10			2.133	2.10
2.09 to 2.16..	6	11			6	11	2.167	2.17			2.167	2.17
2.17 to 2.24..	51	22	1		52	22	2.272	2.257	2.30		2.273	2.257
2.25 to 2.33..	1	1			1	1	2.35	2.38			2.35	2.38
2.34 to 2.41..	33	65		7	33	72	2.50	2.504		2.50	2.50	2.503
2.42 to 2.49..	3	6			3	6	2.60	2.60			2.60	2.60
2.50 to 2.58..	3				3		2.68				2.68	
2.59 to 2.66..	32	8			32	8	2.75	2.75			2.75	2.75
2.67 to 2.74..	2				2		2.87				2.87	
2.75 to 2.83..	23	31		3	23	34	3.00	3.00		3.00	3.00	3.00
2.84 to 2.91..	2				2		3.105				3.105	
2.92 to 3.00..	1				1		3.20				3.20	
3.01 to 3.08..	4	5			4	5	3.27	3.282			3.27	3.282
3.09 to 3.16..	1	1			1	1	3.35	3.40			3.35	3.40
3.17 to 3.24..	8	15			8	15	3.50	3.50			3.50	3.50
3.25 to 3.33..	1				1		3.70				3.70	
3.34 to 3.41..	3				3		3.75				3.75	
3.42 to 3.49..	1				1		3.90				3.90	
3.50 to 3.58..	3				3		4.00				4.00	
3.59 to 3.66..	1				1		4.25				4.25	
3.67 to 3.74..	4				4		4.75				4.75	
3.75 to 3.83..	1				1		5.00				5.00	
3.84 to 3.91..												
3.92 to 4.00..												
4.01 to 4.08..												
4.09 to 4.16..												
4.17 to 4.24..												
4.25 to 4.33..												
4.34 to 4.41..												
4.42 to 4.49..												
4.50 to 5.09..												
Total and av.	520	479	268	203	788	772	1.891	1.841	.882	1.03	1.543	1.545

Remarks.—Reports were received from considerably less than half of the establishments in the state engaged in this industry, and in consequence the value of any conclusions based upon these returns is greatly lessened. As far as these 46 establishments are concerned, there was a decrease in 1905 in the amount of capital invested, the value of the materials used, the number of persons employed, the total wages and salaries paid, and the output. This is doubtless to be accounted for chiefly by an

overproduction in 1904. Female help was employed in all of the occupations in which men were, each year, except that none was employed as forewoman. A large number of children were employed also. The high maximum wages received by women in this industry are noteworthy. In 1904 but one received \$2.00 or over per day. In 1905, however, 24 received \$2.00; 7, \$2.50; and 3, \$3.00. The average daily wages of all female employees increased about 20 per cent. for 1905, whereas those of men suffered a decrease of 3 per cent. The total number of female employees was also greater by 25, although the number of male persons employed was 41 less. The average hours of labor for both men and women were much less than the average for all industries, being but slightly over eight per day.

15. CLOTHING—20 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	6	6		
Number of male partners	16	13	— 3	18.75
Number of female partners.....	16	13	— 3	18.75
Total number of partners	16	13	— 3	18.75
Number of corporations	14	14		
Number of male stockholders	106	104	— 2	1.89
Number of female stockholders	77	66	— 11	14.29
Total number of stockholders	183	170	— 13	7.10
Total number of partners and stockholders.....	199	183	— 16	8.04
Smallest number of persons employed	1,472	1,740	— 223	11.31
Greatest number of persons employed	2,181	2,025	— 156	7.15
Average number of persons employed	2,104	1,801	— 213	10.12
Average days in operation	288	298	+ 10	3.47

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$193,579 10	\$203,392 64	+ \$9,803 54	5.06
Buildings and fixtures	355,220 50	409,049 62	+ 53,829 12	15.15
Machinery, etc.,	190,725 27	203,240 12	+ 12,523 85	6.57
Cash and other capital	1,679,719 33	1,681,440 93	+ 1,721 60	0.10
Total	\$2,419,244 20	\$2,497,122 31	+ 77,878 11	3.22

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$2,465,874 00	\$2,473,271 96	+ \$7,396 76	0.30
Other material used	82,326 54	109,901 21	+ 27,574 67	33.49
Wages	836,855 46	730,108 41	— 106,753 05	12.76
Salaries	275,791 71	255,991 08	— 19,800 63	7.18
Profit and minor expenses ..	798,671 77	799,683 66	+ 6,011 89	0.76
Goods made and work done.	4,454,520 08	4,368,949 73	— 85,570 36	1.92

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$4,454,520 08	\$4,368,949 73
Value of stock used and other material consumed in production	2,548,201 14	2,583,172 57
Industry product (gross product less value of stock and material)	1,906,318 94	1,785,777 15
Wages and salaries (Labor's direct share of product)	1,112,647 17	986,093 49
Profit and minor expense fund, (Industry product less wages)	793,671 77	799,683 66
Percentage of industry product paid in wages.....	Per cent. 58.37	Per cent. 55.28
Percentage of industry product devoted to profit and minor expenses	41.63	44.73

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product, and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,149 89	\$1,320 53	+ \$170 70	14.85
Average product per employee	2,117 17	2,310 39	+ 193 22	9.13
Average yearly earnings	397 74	395 09	— 11 65	2.93

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904	1905.
January	1,972	1,749	90.42	86.37	9.58	13.63
February	2,056	1,776	94.27	87.70	5.73	12.30
March	2,110	1,853	95.74	91.51	3.26	8.49
April	2,130	1,913	97.66	94.47	2.34	5.53
May	2,108	1,851	96.42	91.41	3.58	8.59
June	2,106	1,848	96.65	91.01	3.35	8.99
July	2,062	1,888	94.59	93.23	5.41	6.77
August	2,156	1,983	92.84	95.46	1.06	4.54
September	2,131	2,086	100.—	100.—	.....	.....
October	2,174	1,979	96.67	97.73	0.33	2.27
November	2,141	1,991	98.17	98.96	1.83	1.03
December	2,067	1,894	94.31	93.53	5.69	6.47
Average	2,104	1,891	96.47	96.89	3.53	6.63

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices, female.	5	4	9.50	9.62	\$.50	\$.54	\$.052	\$.056	+ \$.04	8.00
Basters, female	6	12	10	10	.583	.583	.058	.058		
Binders, female	2	2	10	10	1.00	1.00	.10	.10		
Boxers	2	1	9.50	10	1.00	1.00	.105	.10		
Bushelers		1		10		1.50		.15		
Buttonhole makers.	1	1	10	10	4.50	4.50	.45	.45		
Button sewers, female	7	7	10	10	.74	.829	.074	.082	+ .089	12.09
Carpenters	1	1	10	10	2.50	2.00	.25	.20	— .50	20.
Checkers, female		2		9.50		1.345		.141		
Clerks		40		9.01		1.889		.208		
Clerks, female	1	5	10	9	.83	2.033	.083	.226	+ 1.202	144.82
Cutters	86	117	9.61	9.80	2.341	2.607	.243	.275	+ .256	15.30
Designers	4	2	9.75	9	6.33	6.835	.65	.759	+ .505	7.98
Dressmakers		13		10		1.418		.141		
Engineers	3	2	9.66	9	1.83	2.08	.189	.231	+ .35	18.11
Examiners		2		8		2.415		.301		
Examiners, female	4	5	9.75	9.70	1.29	1.148	.132	.113	— .142	11.
Finishers	2	2	10	10	2.00	2.00	.20	.20		
Finishers, female	46	47	9.93	10	.90	.812	.09	.081	— .086	9.77
Firemen		2		10		1.50		.15		
Folders, female		2		9.50		.58		.061		
Foremen	9	11	9.55	9.44	3.077	2.72	.322	.288	— .357	11.60
Forewomen	10	9	9.75	10	1.765	1.731	.181	.172	— .044	2.49
Helpers	159	103	9.61	9.40	.98	1.116	.102	.118	+ .136	13.87
Helpers, female	600	431	9.64	9.85	.856	.862	.088	.089	+ .008	.70
Laborers	2	5	8	9	2.00	1.45	.25	.161	— .55	27.50
Machine operators	38	50	9.66	10	3.612	3.38	.374	.383	— .232	6.43
Machine operators, female	565	555	9.79	9.62	1.196	1.12	.122	.115	— .066	7.19
Machinists	7	9	9.85	10	2.59	2.814	.263	.281	+ .224	8.65
Messengers		1		10		.58		.052		
Packers, female	4	4	10	10	1.062	1.287	.106	.128	+ .226	21.19
Piece workers female	134	81	10	10	1.024	.913	.102	.091	— .111	10.84
Pressers	24	26	9.88	10	2.107	2.04	.213	.204	— .037	3.18
Sewers		8		10		.766		.078		
Sewers, female	116	104	9.25	9.79	.917	.98	.099	.087	— .057	6.23
Shipping clerks	12	5	9.41	10	1.625	1.90	.172	.19	+ .275	16.95
Stockkeepers	2	2	10	10	2.00	2.00	.20	.20		
Stockkeepers, female		2		10		2.50		.25		
Tailors	173	100	9.41	9.84	2.014	2.069	.214	.221	+ .055	2.73
Teamsters	2	1	10	10	1.67	1.65	.167	.166	— .02	1.19
Ticketers, female		1		8		.84		.105		
Trimmers	2	2	10	9.75	2.00	1.265	.90	.127	— .745	37.25
Trimmers, female	1	1	10	10	1.33	1.33	.133	.133		
Watchmen	4	2	9.50	10	1.937	1.75	2.04	.175	— .187	9.65
Total	2,041	1,882	9.67	9.71	1.252	1.304	.128	.134	+ .071	4.07

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.33 or less.	1	.....	.....	.....	1	.....	\$0.33	.....	.....	.....	\$0.33	.....
.34 to .41	4	2	9	10	13	12	.41	\$0.41	\$0.377	\$0.385	.387	\$0.389
.42 to .49	.....	.....	13	19	13	19	.....	.....	.455	.428	.455	.428
.50 to .58	26	11	60	99	86	109	.50	.551	.531	.539	.522	.533
.59 to .66	5	1	80	108	85	109	.658	.60	.663	.635	.647	.685
.67 to .74	7	9	27	38	34	47	.67	.677	.687	.688	.684	.688
.75 to .83	34	14	263	228	297	237	.774	.779	.778	.78	.797	.78
.84 to .91	3	4	135	136	137	140	.91	.90	.897	.883	.898	.884
.92 to .99	.....	1	76	25	76	26	.....	.92	.959	.938	.959	.938
1.00 to 1.08	29	25	304	335	333	360	1.011	1.00	1.003	1.004	1.003	1.003
1.09 to 1.16	4	7	294	69	298	76	1.16	1.13	1.119	1.108	1.13	1.11
1.17 to 1.24	1	5	26	43	27	53	1.17	1.178	1.20	1.197	1.198	1.196
1.25 to 1.33	29	34	75	80	104	114	1.25	1.278	1.276	1.279	1.288	1.277
1.34 to 1.41	11	19	11	16	22	35	1.345	1.397	1.398	1.378	1.381	1.388
1.42 to 1.49	.....	.....	.....	1	.....	1	.....	.....	.....	1.44	.....	1.44
1.50 to 1.58	97	34	62	95	159	129	1.508	1.502	1.50	1.508	1.502	1.508
1.59 to 1.66	81	26	2	8	83	34	1.659	1.65	1.65	1.615	1.655	1.643
1.67 to 1.74	1	11	11	13	12	24	1.67	1.693	1.67	1.693	1.67	1.698
1.75 to 1.83	18	15	8	18	26	33	1.737	1.809	1.82	1.754	1.797	1.779
1.84 to 1.91	3	.....	2	.....	5	.....	1.90	.....	1.90	.....	1.90	.....
1.92 to 1.99	.....	1	.....	5	.....	6	.....	1.92	.....	1.95	.....	1.945
2.00 to 2.08	55	57	27	25	82	82	2.00	2.00	2.00	2.00	2.00	2.00
2.09 to 2.16	8	16	.....	10	8	20	2.145	2.148	.....	2.108	2.145	2.127
2.17 to 2.24	.....	5	1	.....	1	8	.....	2.173	2.17	.....	2.17	2.173
2.25 to 2.33	15	16	6	3	21	19	2.277	2.295	2.29	2.26	2.26	2.288
2.34 to 2.41	27	27	1	.....	28	27	2.35	2.352	2.40	.....	2.358	2.352
2.50 to 2.58	25	24	7	2	32	26	2.50	2.50	2.50	2.505	2.50	2.509
2.59 to 2.66	.....	1	.....	.....	1	.....	.....	2.66	.....	.....	.....	2.66
2.67 to 2.74	.....	5	4	.....	4	5	.....	2.668	2.67	.....	2.67	2.668
2.75 to 2.83	22	8	.....	5	23	13	2.88	2.76	.....	2.75	2.83	2.763
2.84 to 2.91	.....	1	.....	.....	1	.....	.....	2.90	.....	.....	.....	2.90
3.00 to 3.08	31	33	1	1	32	39	3.00	3.00	3.00	3.00	3.00	3.00
3.09 to 3.16	.....	2	.....	.....	2	.....	.....	3.16	.....	.....	.....	3.16
3.25 to 3.33	13	16	.....	1	13	17	3.33	3.33	.....	3.25	3.33	3.325
3.50 to 3.58	10	11	.....	.....	10	11	3.50	3.50	.....	.....	3.50	3.50
3.59 to 3.66	2	20	.....	.....	2	20	3.66	3.66	.....	.....	3.66	3.66
3.67 to 3.74	.....	1	.....	.....	1	.....	.....	3.67	.....	.....	.....	3.67
3.84 to 3.91	1	.....	.....	.....	1	.....	.....	3.87	.....	.....	.....	3.87
4.00 to 4.08	2	6	.....	.....	2	6	4.00	4.00	.....	.....	4.00	4.00
4.25 to 4.33	2	2	.....	.....	2	2	4.25	4.25	.....	.....	4.25	4.25
4.50 to 4.58	2	2	.....	.....	2	2	4.50	4.50	.....	.....	4.50	4.50
5.00 to 5.08	6	4	.....	.....	6	4	5.00	5.00	.....	.....	5.00	5.00
5.25 to 5.33	1	1	.....	.....	1	1	5.25	5.25	.....	.....	5.25	5.25
6.00 to 6.08	4	3	.....	.....	4	3	6.00	6.00	.....	.....	6.00	6.00
6.50 to 6.58	.....	2	.....	.....	.....	2	.....	6.50	.....	.....	.....	6.50
6.59 to 6.66	2	.....	.....	.....	2	.....	.....	6.66	.....	.....	.....	6.66
6.67 to 6.74	.....	1	.....	.....	.....	1	.....	6.67	.....	.....	.....	6.67
7.00 to 7.08	3	4	.....	.....	3	4	7.00	7.00	.....	.....	7.00	7.00
7.50 to 7.58	1	.....	.....	.....	1	.....	7.50	.....	.....	.....	7.50	.....
Total ..	536	490	1,505	1,322	2,041	1,822	\$1,062	\$2,161	\$1,009	\$1,003	\$1,252	\$1,308

Remarks.—This industry shows a loss for 1905, in spite of an increase in all items of investment, and in the average number of days of operation. An industry dependent as this is principally upon the labor of women and children is always likely to experience greater difficulty in securing and retaining its em-

ployees than an industry in which men only are employed. The inability to secure the necessary help may therefore be largely responsible for the loss sustained in 1905, although overproduction in preceding years may also have been a factor. In consequence of the large proportion of women and children employed the average wages received were very low. It is noticeable that men were employed largely in the accessory occupations, cutters and tailors being the chief exceptions. No marked change occurred in 1905 in the hours of labor for women or their average daily wages. The average daily wages of men showed a slight increase, but the greater irregularity of unemployment in the latter year caused a decrease of nearly 3 per cent. in the average yearly earnings.

16. CONFECTIONERY—15 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	7	5	— 2	28.57
Number of male partners.....	11	6	— 5	45.45
Number of female partners.....	11	6	— 5	45.45
Total number of partners.....	11	6	— 5	45.45
Number of corporations.....	8	10	+ 2	25.00
Number of male stockholders.....	41	68	+ 27	65.85
Number of female stockholders.....	10	11	+ 1	10.00
Total number of stockholders.....	51	79	+ 28	54.90
Total number of partners and stockholders.....	69	79	+ 10	14.49
Smallest number of persons employed.....	828	798	— 30	3.62
Greatest number of persons employed.....	1,098	1,838	+ 740	67.39
Average number of persons employed.....	927	958	+ 31	3.34
Average days in operation.....	290	295	+ 5	1.72

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$66,168 00	\$69,512 28	+ \$3,344 28	5.05
Buildings and fixtures.....	192,688 58	195,067 50	+ 2,378 92	1.23
Machinery, etc.	201,080 97	211,281 02	+ 10,200 05	5.07
Cash and other capital.....	585,518 60	712,211 60	+ 126,693 00	21.64
Total	\$1,025,356 15	\$1,188,072 40	+ \$162,716 25	15.87

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$1,294,259 41	\$1,403,559 12	+ \$109,299 71	8.45
Other material used	120,739 84	129,538 33	+ 9,196 54	7.63
Wages	244,304 82	257,533 85	+ 13,229 04	5.42
Salaries	183,870 88	204,308 94	+ 20,438 06	11.11
Profit and minor expenses....	249,030 37	258,737 33	+ 9,706 96	7.91
Goods made and work done..	\$2,092,205 32	\$2,254,070 63	+ \$171,865 31	8.21

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$2,092,205 32	\$2,254,070 63
Value of stock used and material consumed in pro duction	1,414,999 25	1,533,495 50
Industry product (gross production less value of stock and material)	677,206 07	730,575 13
Wages and salaries (Labor's direct share of product)	423,175 70	461,837 80
Profit and minor expense fund (industry product less wages)	249,030 37	278,737 33
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	63.23	63.06
Percentage of industry product devoted to profit and minor expenses	36.77	36.96

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product, and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$1,106 10	\$1,210 40	+ \$104 30	9.43
Average product per employee.....	2,256 96	2,305 57	+ 48 61	2.15
Average yearly earnings	263 54	262 25	— 1 29	0.49

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	847	798	77.14	62.25	22.86	37.75
February	822	858	74.86	66.93	25.14	33.07
March	858	800	78.14	67.06	21.86	32.92
April	864	878	78.60	68.49	21.31	31.51
May	885	906	80.60	70.67	19.40	29.33
June	900	917	81.97	71.53	18.08	28.47
July	852	901	77.50	70.23	22.44	29.72
August	867	969	78.96	75.58	21.04	24.49
September	973	1,044	88.62	81.44	11.38	18.56
October	1,098	1,216	100.—	94.85	0.00	5.15
November	1,098	1,283	100.—	100.—	0.00	0.00
December	1,058	1,149	95.36	89.63	3.64	10.37
Average	927	962	84.43	76.00	15.57	23.40

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904.	1905.	1904	1905.	1904.	1905.	Amt. Per ct.		
Bakers	22	18	10.00	9.94	\$2.606	\$1.707	\$.261	\$.172	—	\$.899	34.50
Bakers, female		1		10.00		3.00		.30			
Boys	15		10.00		.557		.056				
Candy makers	81	81	9.96	9.95	2.200	2.38	.228	.239	+	.111	4.80
Candy makers' help-ers	8		10.00		.816		.082				
Candy makers' help-ers, female	3		10.00		.567		.057				
Carpenters	1	2	10.00	9.00	2.25	2.50	.225	.278	+	.25	11.11
Clerks	7	14	10.00	10.14	1.946	1.521	.195	.15	—	.425	21.84
Clerks, female	2	4	10.00	12.00	1.00	1.168	.10	.087	+	.168	16.80
Dippers, female	95	120	9.96	9.96	.709	.704	.712	.707	—	.005	0.71
Elevator men		2		10.00		1.25		1.25			
Engineers	1	3	10.00	10.00	3.75	3.25	.375	.325	—	.50	13.33
Firemen	1	2	10.00	10.00	2.00	1.50	.20	.15	—	.50	25.00
Foremen	1	3	10.00	10.00	3.00	3.00	.30	.30		.00	
Forewomen	2	4	10.00	10.00	1.50	1.313	.15	.131	—	.187	12.47
Helpers	180	222	9.99	9.98	.90	.854	.09	.086	—	.046	5.11
Helpers, female	423	505	10.00	10.00	.654	.671	.065	.067	+	.017	2.60
Ice-cream makers	3	4	10.00	10.00	2.67	2.375	.267	.238	—	.295	11.05
Machinists	1	1	10.00	10.00	2.75	2.75	.275	.275		.00	
Packers, female	196	119	10.00	10.00	.493	.493	.05	.049	—	.006	1.20
Porters	10	11	10.00	10.00	1.487	1.545	.149	.155	+	.06	4.04
Teamsters	2	2	10.00	11.00	1.935	1.675	.184	.167	—	.16	8.72
Watchmen	3	3	10.67	10.67	1.583	1.583	.148	.148		.00	
Total	1,063	1,121	9.99	10.00	.876	.889	.089	.089		.013	1.48

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.33 or less..			15	4	15	4			\$0.324	\$0.33	\$0.324	\$0.33
.34 to .41.			74	22	74	22			.339	.381	.339	.381
.42 to .49.	11	1	86	82	97	83	\$0.424	\$0.43	.435	.441	.434	.441
.50 to .58.	26	34	242	304	267	338	.538	.516	.586	.536	.536	.534
.59 to .66.	4	7	72	40	76	47	.623	.621	.626	.624	.626	.623
.67 to .74.	24	22	61	58	65	80	.688	.661	.686	.683	.687	.683
.75 to .83.	63	82	80	132	143	214	.779	.774	.781	.766	.78	.768
.84 to .91.	17	2	30	28	47	30	.857	.88	.863	.878	.861	.878
.92 to .99.	4	6	3	4	7	10	.98	.927	.983	.945	.981	.934
1.00 to 1.08.	27	49	25	37	52	86	1.001	1.002	1.013	1.003	1.007	1.009
1.09 to 1.16.		1		2		3		1.14		1.11		1.12
1.17 to 1.24.	2	4	3	2	6	6	1.17	1.18	1.17	1.185	1.17	1.182
1.25 to 1.33.	22	23	21	33	43	56	1.272	1.271	1.264	1.265	1.263	1.261
1.34 to 1.41.		4	1		1	4		1.356	1.34		1.34	1.356
1.42 to 1.49.	3	2	3		6	2	1.42	1.42	1.473		1.447	1.42
1.50 to 1.58.	16	15	2	2	18	17	1.503	1.50	1.50	1.50	1.502	1.50
1.59 to 1.66.			1		1				1.63		1.63	
1.67 to 1.74.	14	10	2	2	16	12	1.67	1.67	1.67	1.67	1.67	1.67
1.75 to 1.83.	8	15			8	15	1.79	1.835			1.79	1.835
2.00 to 2.08.	30	28			36	28	2.004	2.00			2.004	2.00
2.09 to 2.16.	1				1		2.15				2.15	
2.17 to 2.24.	4	3			4	2	2.17	2.17			2.17	2.17
2.25 to 2.33.	7	9			7	9	2.296	2.29			2.296	2.29
2.34 to 2.49.		1				1		2.42				2.42
2.50 to 2.58.	24	15			24	18	2.50	2.50			2.50	2.50
2.67 to 2.74.	4	5			4	5	2.67	2.67			2.67	2.67
2.75 to 2.83.	8	4			8	4	2.803	2.79			2.803	2.79
3.00 to 3.08.	13	14		1	13	15	3.00	3.00		3.00	3.00	3.00
3.17 to 3.24.	1				1		3.17				3.17	
3.25 to 3.33.	2	3			2	3	3.33	3.303			3.33	3.303
3.42 to 3.49.	1	1			1	1	3.46	3.46			3.46	3.46
3.50 to 3.58.		1				1		3.50				3.50
3.67 to 3.74.	1				1		3.97				3.97	
3.75 to 3.83.	1	2			1	2	3.75	3.75			3.75	3.75
3.84 to 3.91.	1	1			1	1	3.85	3.85			3.85	3.85
4.17 to 4.24.	2	1			2	1	4.17	4.17			4.17	4.17
4.25 to 4.33.		1				1		4.25				4.25
4.50 to 4.58.	1	1			1	1	4.50	4.50			4.50	4.50
Total	342	368	721	753	1,063	1,121	1.41	1.361	.622	.658	.876	.889

Remarks.—A very satisfactory gain is exhibited by this industry in 1905. There was an increase of 16 per cent. in the capital invested, every item of investment being greater; and an increase of 8 per cent. in the value of the materials used, the total wages paid, and the output. A very fair proportion, 63 per cent., of the industry product was paid in wages and salaries each year. The average daily wages, however, were very low for both male and female employees. This was due to the large number of women and children employed. Two-thirds of the operatives each year were females. The difference be-

tween the wages paid male and those paid female help may be seen in the first six classes of Table VII. Thus, there were no males in the first two classes, while there were 89 females in 1904, and 26 in 1905. Again, in the third and fourth classes, there were 36 males in 1904 and 35 in 1905; the number of females in the same classes was 328 in 1904 and 386 in 1905. A similar result follows from a comparison of those in the next two classes. It may be seen also from this table that no female employees received higher wages than \$1.67 per day in 1904, and that only one received wages in excess of this amount in 1905. There was an increase of about 5 per cent. in the average daily wages paid female help in 1905. Employment was remarkably irregular in this industry, a maximum of 38 per cent. of unemployment occurring in January of 1905.

17. COOPERAGE—15 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms.....	8	8		
Number of male partners.....	8	8		
Number of female partners.....				
Total number of partners.....	8	8		
Number of corporations.....	7	7		
Number of male stockholders.....	80	28	— 5	6.07
Number of female stockholders.....	8	7	— 1	12.50
Total number of stockholders.....	38	35	— 3	7.90
Total number of partners and stockholders.....	46	43	— 3	6.52
Smallest number of persons employed.....	457	489	+ 31	6.78
Greatest number of persons employed.....	544	574	+ 30	5.52
Average number of persons employed.....	507	522	+ 15	2.95
Average days in operation.....	280	290	+ 1	0.35

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$160,822 26	\$165,447 26	+ \$4,625 00	2.88
Buildings and fixtures.....	182,983 55	193,006 18	+ 10,022 63	5.48
Machinery, etc.	89,607 93	89,965 79	+ 357 79	0.51
Cash and other capital.....	452,076 56	446,074 07	+ 13,907 51	3.10
Total	\$885,590 30	\$894,493 26	+ \$8,902 96	1.00

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used.....	\$548,218 57	\$570,793 84	+ \$22,575 27	4.12
Other material used.....	25,466 69	27,379 73	+ 1,883 09	7.39
Wages	241,777 34	262,610 02	+ 20,832 68	8.62
Salaries	38,469 75	39,053 87	+ 583 62	1.52
Profit and minor expenses....	141,716 92	114,413 49	— 27,298 43	19.26
Goods made and work done..	\$995,679 27	\$1,014,255 50	+ \$18,576 23	1.87

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$995,679 27	\$1,014,255 50
Value of stock used and other material consumed in production	573,715 26	568,173 63
Industry product (gross product less value of stock and material)	421,964 01	416,081 88
Wages and salaries (Labor's direct share of product)	230,247 09	301,663 39
Profit and minor expense fund (Industry product less wages)	141,716 92	114,413 49
Percentage of industry product paid in wages.....	Per cent. 65.41	Per cent. 72.50
Percentage of industry product devoted to profit and minor expenses	33.59	27.50

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$1,746 33	\$1,751 90	+ \$5 57	0.32
Average product per employee.....	1,933 86	1,943 02	+ 9 16	1.02
Average yearly earnings	476 85	503 06	+ 26 21	5.50

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904	1905.	1904.	1905	1904.	1905.
January	498	509	91.54	88.68	8.46	11.39
February	511	528	93.93	91.99	6.07	8.01
March	531	549	97.01	96.65	2.99	4.35
April	537	555	98.71	96.68	1.29	3.32
May	529	520	97.94	90.59	2.76	9.41
June	528	507	97.06	88.83	2.94	11.67
July	544	491	100.00	85.54	0.00	14.46
August	464	574	85.29	100.00	14.71	0.00
September	457	515	84.01	89.73	15.99	10.28
October	481	497	88.42	86.59	11.58	13.41
November	501	488	92.10	84.63	7.90	15.37
December	500	529	91.91	92.16	8.09	7.84
Average	507	522	93.20	90.94	6.80	9.06

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1901.	1905.	1904.	1905.	Amt.	Per ct.
Blacksmiths	2	2	10.00	10.00	\$2.00	\$2.00	\$1.25	\$1.25	—	—
Boys	3	3	8.00	10.00	1.00	1.00	.10	.10	—	—
Carpenters	1	1	10.00	10.00	1.83	1.83	—	—	—	—
Cheese box makers	2	2	10.00	10.00	2.00	2.00	.20	.20	—	—
Coopers	221	237	9.36	9.41	2.337	2.298	.239	.244	+	2.73
Engineers	4	1	10.00	8.00	2.16	2.00	.216	.25	—	16
Firemen	3	7	10.00	11.14	1.953	2.038	.195	.183	+	.063
Foremen	12	5	10.00	9.20	2.273	2.40	.228	.261	+	.122
Glucers	4	10	10.00	10.00	1.25	1.25	.125	.125	—	—
Grinders	1	1	8.00	8.00	2.50	2.80	.313	.350	+	.30
Helpers	66	54	9.58	9.63	1.376	1.347	.144	.14	—	.029
Joiners	1	0	10.00	10.00	2.00	1.33	.20	.133	—	.67
Laborers	16	54	10.00	9.35	1.683	1.444	.168	.154	—	.239
Machine tenders	86	96	8.88	8.52	2.388	2.427	.266	.285	+	.069
Mill hands	76	76	10.00	10.00	1.831	1.831	.183	.183	—	—
Packers	6	6	10.00	10.00	2.19	2.19	.219	.219	—	—
Packers, female	2	2	8.00	8.00	.00	.00	.075	.075	—	—
Piece workers	34	34	10.00	10.00	1.960	1.960	.196	.196	—	—
Sawyers	6	11	10.00	10.00	1.763	1.096	.176	.17	—	.097
Shipping clerks	1	1	10.00	10.00	2.00	2.00	.20	.20	—	—
Stockmen	5	5	10.00	10.00	1.80	1.80	.18	.18	—	—
Teamsters	5	4	10.00	10.00	1.534	1.75	.153	.175	+	.216
Watchmen	3	2	10.67	12.00	1.597	1.535	.149	.153	+	.243
Total	552	501	9.53	9.33	\$1.966	\$2.058	\$1.206	\$1.28	+	\$1.087

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages. (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.			Female.			Male.			Female.		
	1904.		1905.	1904.		1905.	1904.		1905.	1904.		1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.59 to \$0.65.	.....	.....	.....	2	.....	2	.....	.....	\$0.60	.....	\$0.60	.....
.75 to .83.	12	4	.....	.....	12	4	\$.75	\$.75	.....	.....	\$ .75	.....
1.00 to 1.08.	12	17	.....	.....	12	17	1.00	1.00	.....	.....	1.00	1.00
1.09 to 1.16.	5	.....	.....	.....	5	.....	1.15	.....	.....	.....	1.15	.....
1.17 to 1.24.	3	2	.....	.....	3	2	1.20	1.17	.....	.....	1.20	1.17
1.25 to 1.33.	51	61	.....	.....	51	61	1.277	1.278	.....	.....	1.277	1.278
1.34 to 1.41.	3	2	.....	.....	3	2	1.35	1.38	.....	.....	1.35	1.38
1.42 to 1.49.	14	.....	.....	.....	14	.....	1.42	.....	.....	.....	1.42	.....
1.50 to 1.58.	74	60	.....	.....	74	60	1.503	1.50	.....	.....	1.503	1.50
1.59 to 1.66.	.....	6	.....	.....	.....	6	.....	1.60	.....	.....	.....	1.60
1.67 to 1.74.	36	17	.....	.....	36	17	1.672	1.677	.....	.....	1.672	1.677
1.75 to 1.83.	33	54	.....	.....	33	54	1.767	1.753	.....	.....	1.767	1.753
1.84 to 1.91.	12	8	.....	.....	12	8	1.871	1.864	.....	.....	1.871	1.854
1.92 to 1.99.	4	.....	.....	.....	4	.....	1.93	.....	.....	.....	1.93	.....
2.00 to 2.08.	48	29	.....	.....	48	29	2.00	2.00	.....	.....	2.00	2.00
2.09 to 2.16.	3	.....	.....	.....	3	.....	2.13	.....	.....	.....	2.13	.....
2.17 to 2.24.	2	.....	.....	.....	2	.....	2.17	.....	.....	.....	2.17	.....
2.25 to 2.33.	124	55	.....	.....	124	55	2.252	2.25	.....	.....	2.252	2.25
2.50 to 2.58.	53	42	.....	.....	53	42	2.502	2.50	.....	.....	2.502	2.50
2.67 to 2.74.	2	1	.....	.....	2	1	2.70	2.67	.....	.....	2.70	2.67
2.75 to 2.83.	39	123	.....	.....	39	123	2.80	2.778	.....	.....	2.80	2.778
2.84 to 2.91.	2	.....	.....	.....	2	.....	2.90	.....	.....	.....	2.90	.....
3.00 to 3.08.	9	14	.....	.....	9	14	3.00	3.00	.....	.....	3.00	3.00
3.25 to 3.33.	3	2	.....	.....	3	2	3.30	3.25	.....	.....	3.30	3.25
3.50 to 3.58.	5	2	.....	.....	5	2	3.50	3.50	.....	.....	3.50	3.50
3.75 to 3.83.	1	.....	.....	.....	1	.....	3.80	.....	.....	.....	3.80	.....
4.34 to 4.41.	2	.....	.....	.....	2	.....	4.35	.....	.....	.....	4.35	.....
Total ...	552	499	.....	2	552	501	\$1.906	\$2.050	.....	\$0.60	\$1.906	\$2.058

Remarks.—A moderate growth of this industry is indicated by an increase of 3 per cent. in the total capital invested, of 5 per cent. in the materials used, of 8 per cent. in the total wages paid, and of 2 per cent. in the output. The increase of over 5 per cent. in the amount invested in buildings points to the establishment of the industry on a more permanent basis. The average number of employees was 3 per cent. greater in 1905, while the average yearly earnings showed an increase of over 5 per cent. A large proportion of the industry product was paid in wages each year,—66 per cent. in 1904, and over 72 per cent. the following year. Employment was slightly less regular in 1905. No female help was employed in this industry, with the exception of two persons working as packers in 1905. These two worked eight hours per day. The average hours for men were about 12 minutes shorter in 1905 than in the preceding year.

18. COTTON AND LINEN—11 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	2	1	— 1	50.00
Number of male partners	4	2	— 2	50.00
Number of female partners				
Total number of partners	4	2	— 2	50.00
Number of corporations	9	10	+ 1	11.11
Number of male stockholders	180	189	+ 9	5.00
Number of female stockholders	91	89	— 2	2.20
Total number of stockholders	271	278	+ 7	2.56
Total number of partners and stockholders	275	290	+ 15	5.45
Smallest number of persons employed	604	834	+ 230	38.08
Greatest number of persons employed	975	1,047	+ 72	7.39
Average number of persons employed	791	986	+ 195	24.65
Average days in operation	268	291	+ 23	8.58

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$159,740 65	\$173,769 54	+ \$14,028 89	8.78
Buildings and fixtures	217,656 85	241,884 22	+ 24,227 37	11.12
Machinery, etc.	379,229 20	439,046 91	+ 59,817 71	15.77
Cash and other capital	950,837 99	1,149,657 81	+ 198,819 82	20.91
Total	\$1,707,464 69	\$2,004,358 48	+ \$296,893 79	17.39

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$1,473,522 69	\$1,791,245 26	+ \$317,722 57	21.56
Other material used	132,915 01	177,194 75	+ 44,279 74	33.31
Wages	238,066 89	273,140 62	+ 35,073 73	14.73
Salaries	99,937 41	104,351 06	+ 4,413 65	4.42
Profit and minor expenses	309,863 40	320,008 83	+ 10,145 43	3.27
Goods made and work done	2,264,334 40	2,666,938 51	+ 402,604 11	17.78

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$3,254,334 40	\$2,666,506 61
Value of stock used and other material consumed in production	1,606,437 70	1,968,430 01
Industry product (gross product less value of stock and material)	648,496 70	698,136 60
Wages and salaries (Labor's direct share of product)	338,638 30	377,528 27
Profit and minor expense fund (Industry product less wages)	309,863 40	320,608 33
Percentage of industry product paid in wages	Per cent. 52.23	Per cent. 54.06
Percentage of industry product devoted to profit and minor expenses	47.78	45.92

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,156 63	\$2,141 39	— \$17 23	0.80
Average product per employee	2,850 74	2,843 90	— 1 84	0.06
Average yearly earnings	301 76	291 82	— 9.94	3.29

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904	1905.
January	912	874	98.54	83.43	6.46	16.52
February	975	907	100.—	86.63	—	13.37
March	968	881	99.28	84.15	0.72	15.85
April	812	964	83.28	92.07	16.73	7.93
May	822	1,047	84.31	100.—	15.69	—
June	813	993	83.39	94.85	16.61	5.15
July	688	986	75.57	84.53	29.43	15.47
August	673	834	69.03	79.66	30.97	20.34
September	647	912	66.36	87.10	33.64	12.90
October	604	929	61.96	88.73	38.06	11.27
November	672	996	69.99	95.13	31.08	4.87
December	900	1,007	92.31	96.18	7.69	3.92
Average	791	936	81.13	89.40	18.87	10.60

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Assemblers	1	1	10.00		\$1.50		\$0.15			
Assorters, female	4	1	10	10	.963	\$1.00	.086	\$0.10	+\$0.037	3.84
Awning hangers	5	6	10	10	2.00	1.968	.20	.196	— .042	2.10
Awning makers	2	2	10	10	1.50	2.875	.15	.288	+ 1.375	91.67
Ballers, female	13		10		1.154			.115		
Beamers, female	1	1	10		.83			.083		
Blacksmiths	2	2	10	10	1.875	1.875	.188	.188		
Bleachers		9		10		1.472		.147		
Boys	3	2	10	10	1.25	1.625	.125	.163	+ .375	30.00
Carders	10	9	10	10	1.50	1.75	.15	.175	+ .25	16.67
Carpenters	4	2	9.75	9.67	2.058	2.027	.211	.21	— .031	1.51
Cutters	4	6	10	10	1.50	1.417	.15	.142	— .083	5.53
Dyers	8	5	10	10	1.50	1.50	.15	.15		
Engineers	4	5	10.25	10.20	2.355	2.434	.23	.244	+ .129	5.48
Engravers	1	1	10	10	3.50	4.00	.35	.40	+ .50	14.29
Feeders	4	2	10	10	6.75	4.85	.68	.49	— .19	28.15
Feeders, female	24	22	10	10	.723	.955	.072	.096	+ .232	32.09
Finishers		1		10		2.00		.20		
Firemen		2		10.50		1.75		.167		
Foremen	17	8	10.18	10	2.511	2.826	.247	.283	+ .315	12.54
Forewomen	4	3	10	10	1.263	1.50	.126	.15	+ .237	18.77
Hammock makers		2		10		1.25		.125		
Hammock makers fe- male	46	10	10	10	.67	.67	.067	.067		
Helpers	9	47	10	10	2.276	1.40	.228	.14	— .876	38.49
Helpers, female	6	30	10	10	.75	.637	.075	.069	— .067	8.40
Inspectors, female	4	21	10	10	1.00	.904	.10	.09	— .096	9.60
Laborers	135	106	10.46	10.41	1.128	1.293	.107	.125	+ .175	15.58
Laborers, female	145	155	10.64	10.67	.853	.902	.08	.086	+ .049	5.74
Lappers	10	4	10	10	1.50	1.50	.15	.15		
Machine tenders	34	7	10	10	1.119	1.464	.112	.146	+ .345	30.83
Machine tenders, fe- male	52	27	10	10	.711	.734	.071	.073	+ .023	3.23
Machinists	7	8	10	10.13	1.957	2.406	.196	.238	+ .449	22.94
Menders, female	6	3	10	10	1.00	1.00	.10	.10		
Mattress makers		3		10		2.00		.20		
Mattress makers, fe- male		1		10		1.00		.10		
Nailers, female	5	3	10	10	1.19	1.143	.119	.114	— .047	3.95
Net makers	29	25	10	10	1.00	1.00	.10	.10		
Net makers, female	154	76	10	10	.75	.75	.075	.075		
Packers		5		10		1.034		.103		
Packers, female		2		10		1.00		.10		
Painters	2	2		10		1.375		.138		
Piece workers	2		10		.96		.095			
Piece workers, female	85	87	10	10	1.115	1.115	.112	.112		
Ravelers, female	5	5	10	10	.722	.618	.072	.062	— .104	14.40
Reelers, female		1		10		1.00		.10		
Repairers	4		10		2.00		.20			
Rope makers	13	10	10	10	.84	.85	.084	.085	+ .01	1.19
Rubbers	1		10		1.50		.15			
Sail makers	10	7	10	10	2.55	2.571	.255	.257	+ .021	0.82
Sewers, female	43	65	10	10	1.037	.993	.109	.099	— .094	8.65
Shipping clerks	4	9	10	10	1.688	1.678	.167	.168	+ .006	0.48
Spinners	8	16	10	10	1.80	1.344	.16	.134	— .256	16.00
Spinners, female	35	15	10	10	1.00	.89	.10	.089	— .11	11.00
Splint pullers, female	6		10		.983		.098			
Teamsters	3	5	10	10	1.967	1.80	.197	.18	— 0.167	8.49
Trimmers, female		1		10		.65		.065		
Twisters, female	1		10		.50		.05			
Typesetters	2	2	10	10	1.85	1.85	.185	.185		
Typesetters, female	3	3	10	10	1.15	1.20	.115	.12	+ .06	4.35
Warpers, female	1	1	10	10	.80	1.00	.08	.10	+ .20	25.00
Watchmen	5	4	11.40	11.25	1.434	1.498	.138	.133	+ .061	4.46
Weavers	33	27	10.03	10	1.269	1.347	.127	.135	+ .022	1.73
Weavers, female	11	45	10	10	1.194	.81	.119	.081	— .394	32.16
Winders, female	5	16	10	10	1.118	.55	.112	.055	— .566	50.81
Wood workers		2		10		1.50		.15		
Yardmen	1		10		1.50		.15			
Total	1,020	961	10.16	10.16	\$1.059	\$1.111	\$0.104	\$0.109	+ \$0.053	4.91

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904		1905		1904		1904		1905		1904	
	1904	1905	1904	1905	1904	1905	1904	1905	1904	1905	1904	1905
\$0.33 or less.	1	2	3	4	5	6	\$0.14	\$0.25	\$0.26	\$0.30	\$0.33	\$0.36
.34 to .41.	4	3	1	1	5	4	.40	.37	.40	.35	.40	.37
.42 to .49.	4	4	7	17	7	21	.45	.42	.45	.42	.45	.43
.50 to .58.	13	9	27	25	40	34	.50	.50	.51	.50	.50	.51
.59 to .66.	20	2	26	35	46	37	.60	.60	.60	.61	.60	.61
.67 to .74.	6	1	72	25	78	26	.70	.67	.68	.68	.67	.67
.75 to .83.	23	10	258	181	280	191	.78	.78	.78	.78	.78	.78
.84 to .91.	15	16	24	42	39	58	.84	.85	.87	.85	.86	.85
.92 to .99.			4	5	4	5			.92	.94	.92	.94
1.00 to 1.08.	62	41	92	177	154	219	1.00	1.00	1.00	1.00	1.00	1.00
1.09 to 1.16.	32	3	47	18	79	21	1.12	1.10	1.10	1.10	1.11	1.10
1.17 to 1.24.		1	19	19	19	20		1.24	1.19	1.20	1.19	1.21
1.25 to 1.33.	16	74	38	34	54	108	1.25	1.27	1.26	1.26	1.26	1.27
1.34 to 1.41.	3	4	4	2	7	6	1.38	1.35	1.38	1.38	1.38	1.38
1.42 to 1.49.		1	5		5	1		1.47	1.45		1.45	1.47
1.50 to 1.58.	63	89	12	12	75	101	1.50	1.50	1.50	1.51	1.50	1.50
1.59 to 1.66.	23		2	2	25	2		1.63		1.61	1.61	1.65
1.67 to 1.74.	10	2	3	3	13	5	1.67	1.65	1.67	1.69	1.67	1.68
1.75 to 1.83.	26	32	4	1	30	33	1.75	1.78	1.75	1.75	1.75	1.77
1.84 to 1.91.	6	5		3	6	8	1.83	1.88		1.83	1.83	1.87
1.92 to 1.99.				1	1	1				1.92		1.92
2.00 to 2.08.	16	14		2	16	16	2.03	2.00		2.00	2.03	2.00
2.09 to 2.16.	2	3			2	3	2.10	2.17			2.10	2.17
2.17 to 2.24.	5	7			5	7	2.25	2.25			2.25	2.25
2.25 to 2.33.	14	14			14	14	2.50	2.50			2.50	2.50
2.34 to 2.41.	2	1			2	1	2.65	2.67			2.65	2.67
2.42 to 2.50.	3	2			3	2	2.75	2.75			2.75	2.75
2.51 to 2.58.	5	11			5	11	3.00	3.00			3.00	3.00
2.59 to 2.66.	1				1		3.15				3.15	
2.67 to 2.74.	3	1			3	1	3.30	3.25			3.30	3.25
2.75 to 2.83.	3				3		3.50				3.50	
2.84 to 2.91.		1			1			4.00				4.00
2.92 to 2.99.		2			2			4.25				4.25
Total ...	375	354	645	607	1,020	951	\$1.373	\$1.478	\$.873	\$.896	\$1.050	\$1.111

Remarks.—The tables show a very satisfactory gain in 1905 for this industry. Thus there was an increase of from 13 per cent. to 22 per cent. in the amount of capital invested, the average number of persons employed, the materials used, the total sum paid in wages and salaries, the average number of days of operation, and the total output. There was an apparent increase in the average daily wages paid, according to Table VI. But employment was somewhat irregular each year, and in consequence there was actually a slight decrease in the average daily wages paid throughout the year, as is seen from the decrease of 3 per cent. in the average yearly earnings. This indicates that in 1905 those employees who received the better wages were on the whole employed for a shorter period than those receiving

lower wages. The average daily wages paid in this industry were very low, owing chiefly to the fact that about three-fifths of the employees were women. Female help was employed not only in several of the minor occupations but also in many of the most important. The average hours of labor for both men and women were slightly over ten per day.

19. CREAMERIES—24 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	7	7	.....	.....
Number of male partners.....	14	12	— 2	14.29
Number of female partners.....	.....	.....	.....	.....
Total number of partners.....	14	12	— 2	14.29
Number of corporations.....	17	17	.....	.....
Number of male stockholders.....	1,035	1,189	+ 153	14.78
Number of female stockholders.....	64	76	+ 12	18.75
Total number of stockholders.....	1,099	1,264	+ 165	15.01
Total number of partners and stockholders.....	1,113	1,276	+ 163	14.65
Smallest number of persons employed.....	84	120	+ 36	45.24
Greatest number of persons employed.....	117	143	+ 26	26.50
Average number of persons employed.....	99	124	+ 25	25.25
Average days in operation.....	299	301	+ 2	0.67

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land.....	\$19,803 37	\$20,510 00	+ \$706 63	3.57
Buildings and fixtures.....	108,528 09	110,665 33	+ 2,137 24	1.97
Machinery, etc.....	69,698 29	83,785 98	+ 14,087 69	20.21
Cash and other capital.....	119,983 52	105,092 78	— 14,900 74	12.42
Total.....	\$318,013 27	\$320,044 09	+ 2,030 82	0.64

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Per cent
Raw material used	\$748,545 86	\$1,088,231 17	+ \$339,685 31	38.70
Other material used	50,881 53	59,116 36	+ 1,234 83	2.43
Wages	35,702 77	75,414 57	+ 19,711 80	35.30
Salaries	19,044 42	21,232 80	+ 2,187 88	11.49
Profit and minor expenses....	245,738 67	337,989 09	+ 92,250 42	37.54
Goods made and work done..	\$1,119,913 25	\$1,524,983 49	+ \$405,070 24	36.17

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$1,119,913 25	\$1,524,983 49
Value of stock used and material consumed in production	799,427 39	1,090,347 53
Industry product (gross production less value of stock and material)	320,485 86	434,635 96
Wages and salaries (Labor's direct share of product)	74,747 19	96,646 87
Profit and minor expense fund (Industry product less wages)	245,738 67	337,989 09
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	23.32	22.24
Percentage of industry product devoted to profit and minor expenses	76.68	77.76

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$3,212 25	\$2,339 39	— \$872 86	25.65
Average produce per employee.....	11,312 26	11,390 47	+ 68 21	0.60
Average yearly earnings	562 65	562 80	+ 0 15	0.03

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	84	123	71.79	83.11	28.21	16.89
February	84	123	71.79	82.43	28.21	17.57
March	88	123	75.81	83.11	24.79	16.89
April	98	134	83.76	90.54	16.94	9.46
May	104	143	88.89	96.62	11.11	3.38
June	112	143	95.73	100.—	4.97	0.00
July	117	143	100.—	100.—	0.00	0.00
August	108	143	92.31	95.95	7.69	4.05
September	104	139	88.89	93.92	11.11	6.08
October	100	137	85.47	85.81	14.53	14.19
November	95	124	81.20	83.79	18.80	16.22
December	89	129	76.07	87.16	23.93	12.84
Average	99	134	84.62	90.54	15.38	9.46

TABLE VI— OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Butter makers	38	42	9.74	10	\$2.02	\$2.097	\$.213	\$.210	+ \$.057	2.83
Cream handlers		8		10		2.419		.242		
Foremen	2	1	10	10	2.30	2.75	.23	.275	+ .45	19.57
Helpers	18	25	9.39	10	1.182	1.974	.126	.127	+ .092	7.78
Ice cream makers....		1		10		2.00		.20		
Laborers	22	4	10	10	1.64	1.543	.164	.154	— .097	5.91
Separators		1		10		1.30		.13		
Skimmers	15	13	8.93	10.15	1.225	1.585	.127	.156	+ .360	29.39
Teamsters	6		11		2.217		.202			
Total and average	101	101	9.07	9.43	\$1.687	\$1.813	\$.186	\$.192	+ \$.126	7.47

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.66.	1	1			1	1	3.85	3.65			3.85	3.65
.75 to .83.	4	1			4	1	.756	.75			.756	.75
1.00 to 1.08.	17	9			17	9	1.042	1.00			1.042	1.00
1.09 to 1.16.		1				1		1.10				1.10
1.17 to 1.24.	2				2		1.23				1.23	
1.25 to 1.33.	3	11			3	11	1.277	1.275			1.277	1.275
1.34 to 1.41.	2				2		1.40				1.40	
1.50 to 1.58.	8	116			8	116	1.50	1.50			1.50	1.50
1.59 to 1.66.	7	2			7	2	1.651	1.63			1.651	1.63
1.67 to 1.74.	8	9			8	9	1.695	1.67			1.695	1.67
1.75 to 1.83.	16	2			16	2	1.735	1.79			1.735	1.79
1.92 to 1.99.	3	2			3	2	1.953	1.97			1.953	1.97
2.00 to 2.06.	15	28			15	28	2.005	2.00			2.005	2.00
2.17 to 2.24.	1				1		2.24				2.24	
2.25 to 2.33.	7	4			7	4	2.308	2.308			2.308	2.308
2.50 to 2.59.		2				2		2.585				2.585
2.59 to 2.66.	1	1			1	1	2.60	2.65			2.60	2.65
2.67 to 2.74.	3	5			3	5	2.72	2.73			2.72	2.73
2.75 to 2.83.	1	3			1	3	2.83	2.75			2.83	2.75
3.00 to 3.06.	1	3			1	3	3.00	3.00			3.00	3.00
3.59 to 3.66.	1				1		3.66				3.66	
4.00 to 4.08.		1				1		4.00				4.00
Total and average	101	101			101	101	1.687	1.813			1.687	1.813

Remarks.—It is to be regretted that reports were received from so small a number of the creameries of the state, especially as Wisconsin ranks as the second dairy state in the union. According to the report of the Dairy and Food Commission for 1905, there were in that year 1,017 creameries in the state, with a total output valued at \$19,000,000. Only a very partial idea of this industry can be obtained therefore from the foregoing tables, in which but 24 establishments are compared. For the establishments which reported, there was a large increase in the average number of employees, in the total wages paid, the material used, and the output. Only 23 per cent, a very small proportion, of the value of the industry product was paid in wages each year. Employment was very irregular, owing to the decrease in the supply of milk each winter, as compared with the amount furnished during the summer months. June and July were naturally the months of maximum employment. No female help was employed in any of the establishments that reported.

20. DYEING AND CLEANING—5 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	4	4		
Number of male partners	8	4	— 4	50.00
Number of female partners	1		— 1	100.00
Total number of partners.....	9	4	— 5	55.56
Number of corporations.....	1	1		
Number of male stockholders.....	3	4	+ 1	33.33
Number of female stockholders.....				
Total number of stockholders.....	3	4	+ 1	33.33
Total number of partners and stockholders.....	12	8	— 4	33.33
Smallest number of persons employed.....	153	161	+ 8	5.23
Greatest number of persons employed.....	180	192	+ 12	6.67
Average number of persons employed.....	165	176	+ 11	6.67
Average days in operation	303	306	+ 4	1.32

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, + or decrease, —, in 1905.	
	1904	1905.	Amount.	Per cent
Land	\$5,000 00	\$5,400 00	+ \$400 00	8.00
Buildings and fixtures	36,768 74	36,768 74		
Machinery, etc.	47,616 02	48,068 80	+ 477 78	1.00
Cash and other capital.....	30,808 97	29,752 88	— 550 39	1.82
Total	\$119,688 08	\$120,015 42	+ \$327 30	0.27

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$20,049 27	\$20,040 09	— \$9 18	0.05
Other material used.....	34,165 99	34,374 01	+ 108 02	0.32
Wages	52,296 00	55,506 85	+ 4,240 85	8.11
Salaries	22,966 60	22,390 09	— 576 51	2.51
Profit and minor expenses...	32,688 50	37,494 49	+ 4,805 99	14.70
Goods made and work done..	\$162,135 36	\$170,805 52	+ 8,670 16	5.35

TABLE III B—ANALYSIS OF TABLE III A.

Classification,	1904.	1905.
Goods made and work done (gross product)	\$162,135 36	\$170,805 52
Value of stock used and material consumed in production	54,215 26	54,314 10
Industry product (gross production less value of stock and material)	107,920 10	116,491 42
Wages and salaries (Labor's direct share of product)	75,231 00	78,996 98
Profit and minor expense fund (Industry product less wages)	32,688 50	37,494 49
Percentage of industry product paid in wages.....	Per cent. 69.71	Per cent. 67.81
Percentage of industry product devoted to profit and minor expenses	30 29	32.19

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$725 39	\$681 91	— \$43 47	5.99
Average product per employee.....	938 64	970 49	— 12 15	1.24
Average yearly earnings	316 78	321 03	+ 4 27	1.54

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	'1904.	1905.	1904.	1905.
January	154	162	85.56	84.38	14.44	15.62
February	158	161	85.00	83.86	15.00	16.14
March	157	170	87.22	88.54	12.78	11.46
April	159	179	88.33	93.23	11.67	6.77
May	170	182	94.45	94.79	5.55	5.21
June	173	189	95.59	94.79	4.44	5.21
July	162	171	90.00	89.06	10.00	10.94
August	164	179	91.11	89.58	8.89	10.42
September	173	183	95.56	94.79	4.44	5.21
October	180	192	100.—	100.—	0.00	0.00
November	174	184	96.67	95.83	3.33	4.17
December	164	176	91.11	91.67	8.89	8.33
Average	166	176	91.67	91.67	8.33	8.33

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Boys	3	4	10	10	\$.50	\$.58	\$.05	\$.058	+\$.08	16.00
Cleaners	3	4	10	9.75	2.223	2.27	.222	.233	+.047	9.11
Clerks	5	6	10	10	1.084	1.25	.108	.125	+.106	15.31
Dyers	20	21	9.75	9.78	1.811	1.836	.186	.198	+.125	6.90
Dyers, female	3	1	9.66	9	2.00	2.26	.207	.26	+.25	12.50
Dyers' helpers	6	6	10	10	1.791	1.791	.179	.179	—	—
Dyers' helpers, fe- male	13	13	10	10	.886	.886	.088	.088	—	—
Engineers	2	3	10.5	10	2.43	2.613	.234	.261	+.193	7.97
Finishers, female....	18	27	10	10	.901	.806	.09	.08	— .006	10.65
Firemen	1	1	10	10	2.00	2.08	.20	.208	+.08	4
Helpers	7	10	10	10	1.287	1.398	.128	.139	+.139	11.33
Helpers, female	12	12	9.5	9	.48	.586	.05	.056	+.056	11.67
Laborers	5	10	10	10	1.466	1.466	.146	.146	—	—
Layers	3	4	10	9.75	2.056	1.917	.205	.196	— .139	6.76
Porters	1	1	10	10	1.75	2.08	.175	.208	+.33	18.83
Pressers	6	14	10	10	1.55	1.88	.155	.188	+.23	14.84
Pressers, female	74	55	9.27	9	.878	.906	.094	.10	+.027	3.07
Seamstresses	3	3	9.33	9	.886	1.00	.086	.111	+.114	12.87
Solicitors	1	1	10	10	2.17	2.67	.217	.267	+.50	28.04
Tailors	2	3	10	10	2.00	1.883	.20	.186	— .137	6.85
Teamsters	6	7	10	9.85	1.606	1.657	.16	.161	— .019	1.18
Total and average	175	196	9.61	9.60	\$1.15	\$1.208	\$.119	\$.125	+\$.068	5.04

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 or less..				3		3				\$.33		\$.33
.42 to .49.			3	4	3	4			.42	.42	.42	.42
.50 to .58.	4	4	11	7	15	11	\$.50	\$.58	.50	.534	.50	.551
.67 to .74.				5		5				.67		.67
.75 to .83.	2	1	52	40	54	41	.79	.83	.802	.804	.802	.805
.92 to .99.		1	18	22	19	23		.92	.92	.92	.92	.92
1.00 to 1.08.	3	10	16	23	19	33	1.00	1.016	1.005	1.00	1.004	1.004
1.09 to 1.16.	3		2	2	5	2	1.13		2.18	2.18	1.114	1.09
1.17 to 1.24.		5	2	1	2	6		1.17	1.17	1.17	1.17	1.17
1.25 to 1.33.	3	11	2	3	6	14	1.277	1.291	1.33	1.33	1.303	1.299
1.42 to 1.49.	2				2		1.42				1.42	
1.50 to 1.58.	12	13			12	13	1.50	1.512			1.50	1.512
1.59 to 1.66.	5				5		1.60				1.60	
1.67 to 1.74.	11	6			11	6	1.67	1.67			1.67	1.67
1.75 to 1.83.	3	2			3	2	1.803	1.83			1.803	1.83
1.84 to 1.91.		5				5		1.89				1.89
2.00 to 2.08.	7	9			10	9	2.00	2.027	2.00		2.00	2.027
2.17 to 2.24.	4	3	3		4	3	2.17	2.17			2.17	2.17
2.25 to 2.33.		6		1		7		2.25		2.25		2.25
2.50 to 2.58.	3	1			3	1	2.50	2.50		2.50		2.50
2.59 to 2.66.		1				1		2.59				2.59
2.67 to 2.74.	1	3			1	3	2.67	2.67			2.67	2.67
3.00 to 3.08.	1	2			1	2	3.00	3.00			3.00	3.00
3.25 to 3.33.	1	2			1	2	3.33	3.33			3.33	3.33
Total and av- erage	65	85	110	111	175	196	\$1.625	\$1.669	\$.939	\$.853	\$1.15	\$1.203

Remarks.—This industry shows a moderate gain for 1905. There was an increase of 7 per cent. in the average number of persons employed, of about 5 per cent. in the total wages and salaries paid, and 5 per cent. in the value of the output. A large proportion—from 68 to 70 per cent.—of the industry product was paid in wages each year. * Employment was somewhat irregular from month to month. The number of female employees exceeded the number of men employed each year, but the latter showed a much larger increase for 1905. Women were employed in many of the more important occupations. Their average daily wages were slightly lower in 1905,—about 2 per cent. Their hours of labor also decreased, but to a less extent than the daily wages.

21. ELECTRIC AND GAS SUPPLIES—10 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	6	6		
Number of male partners.....	7	7		
Number of female partners.....	2	2		
Total number of partners.....	9	9		
Total number of corporations.....	4	4		
Number of male stockholders.....	57	56	— 1	
Number of female stockholders.....				
Total number of stockholders.....	57	56	— 1	1.75
Total number of partners and stockholders.....	69	65	— 4	5.80
Smallest number of persons employed.....	331	323	— 8	2.42
Greatest number of persons employed.....	369	395	+ 26	7.05
Average number of persons employed.....	343	356	+ 13	3.79
Average days in operation.....	300	308	+ 8	2.67

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land.....	\$35,000 00	\$45,900 00	+ \$10,900 00	31.14
Buildings and fixtures.....	124,577 52	129,320 22	+ 4,742 70	3.81
Machinery, etc.....	201,044 41	204,939 71	+ 3,895 30	1.94
Cash and other capital.....	567,269 62	680,323 27	+ 113,053 65	19.93
Total.....	\$927,891 55	\$1,040,483 20	+ \$112,591 65	12.13

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used.....	\$44,276 67	\$51,721 58	+ \$7,444 91	16.81
Other material used.....	50,694 64	61,509 95	+ 10,815 31	21.33
Wages.....	180,485 46	187,513 08	+ 7,027 62	3.90
Salaries.....	126,909 21	143,309 48	+ 16,400 27	12.94
Profit and minor expenses.....	147,568 85	157,442 09	+ 9,873 24	6.69
Goods made and work done.....	949,928 83	1,061,466 18	+ 111,537 35	11.74

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$949,922 83	\$1,061,486 18
Value of stock used and and material consumed in production	494,961 31	573,321 53
Industry product (gross production less value of stock and material)	454,961 52	488,164 65
Wages and salaries (Labor's direct share of product)	307,394 07	330,722 56
Profit and minor expense fund (industry product less wages)	147,566 85	157,442 09
Percentage of industry product paid in wages	Per cent. 67.56	Per cent. 67.75
Percentage of industry product devoted to profit and minor expenses	32.44	32.25

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly Earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,705 22	\$3,922 71	+ \$217 49	8.04
Average product per employee	2,769 45	3,981 70	+ 212 25	7.66
Average yearly earnings	526 20	526 72	+ 0.52	0.10

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	343	334	94.49	84.56	5.51	15.44
February	381	340	91.18	86.06	8.82	13.92
March	343	341	94.49	86.33	5.51	13.67
April	339	336	98.39	85.06	6.61	14.94
May	363	323	100.—	81.77	.....	18.23
June	359	353	98.90	89.37	1.10	10.63
July	346	376	95.32	95.19	4.68	4.81
August	350	395	96.42	100.—	3.58	.....
September	339	373	93.39	94.43	6.61	5.57
October	335	377	92.23	95.44	7.72	4.56
November	333	364	91.73	92.15	8.27	7.85
December	336	364	92.56	92.15	7.44	7.85
Average	343	356	94.40	90.13	5.51	9.87

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1905.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	1	1	8	8	\$.50	\$.50	\$.068	\$.068		
Assemblers	48	44	10	10	1.79	1.308	.179	.140	\$ —.392	21.90
Assemblers, female		3		10		1.00		.10		
Blacksmiths	2	2	10	10	3.25	3.25	.325	.325		
Box makers	6	5	10	10	1.625	1.85	.163	.185	+ .225	13.65
Buffers	2	2	10	10	2.00	2.25	.20	.225	+ .25	12.50
Cabinetmakers	2		10		2.00		.20			
Carpenters	3	1	10	10	2.083	2.25	.208	.225	+ .167	8.02
Clerks	1		10		1.75		.175			
Commutator makers		6		10		1.792		.179		
Core makers		9		10		1.639		.164		
Crane men	4	4	10	10	1.838	1.662	.184	.166	+ .024	1.47
Designers	1		10		4.00		.40			
Dippers	3		10		1.00		.10			
Drill hands	3	4	10	10	1.617	1.55	.162	.155	— .007	4.14
Electricians	14	13	8	8.02	2.159	2.495	.27	.289	+ .336	15.56
Engineers	1	1	10	11	1.75	2.25	.175	.205	+ .50	28.57
Finishers	7	10	10	10	2.357	2.325	.236	.233	— .032	1.36
Foremen	1	1	10	8	3.25	3.00	.325	.375	— .25	7.69
Foundrymen		2		10		1.50		.15		
Helpers	18	30	9.70	9.50	1.018	.947	.105	.10	— .071	6.97
Iron workers	4	3	10	10	2.458	2.50	.246	.25	+ .042	1.71
Laborers	33	18	9.44	9.78	1.659	1.694	.176	.173	+ .035	2.11
Locksmiths	1		10			2.50		.25		
Machinists	36	38	9.94	9.97	2.499	2.593	.252	.25	+ .004	3.76
Machinists' helpers	25		10			.92		.092		
Machine inspectors		1		10		3.25		.325		
Masons		1		10		1.50		.15		
Molders	3	3	10	10	2.50	2.833	.25	.283	+ .333	13.32
Notchers		6		10		1.683		.168		
Office boys	1	1	10	10	.50	.75	.05	.075	+ .25	50.00
Packers		2		10		1.00		.10		
Painters	12	4	10	10	1.917	1.938	.192	.194	+ .021	1.10
Pattern makers	2	7	10	10	3.15	2.75	.315	.275	— .40	12.70
Platers	4	2	10	10	1.689	2.125	.169	.213	+ .437	25.99
Plumbers	4	7	8	8	3.50	4.00	.438	.50	+ .062	14.29
Polishers	9	8	10	9.88	2.139	2.20	.214	.223	+ .061	2.85
Punchers	2		10		1.875		.188			
Screw-machine hands	3		10		1.583		.158			
Screw makers		1		10		1.00		.10		
Shippers	1		10		2.00		.20			
Stockkeepers	1		10		2.00		.20			
Steam fitters	1		10		2.25		.225			
Switchboard men	5	3	10	10	2.00	2.50	.20	.25	+ .50	25.00
Testers		5		10		1.87		.187		
Tool keepers	12	21	10	10	3.125	2.833	.313	.283	— .292	9.34
Tool makers	1		10		1.00		.10			
Trimmers		2		10		2.00		.20		
Watchmen	1	1	10	12	1.50	1.75	.15	.146	+ .25	16.97
Winders	19	12	10	10	1.824	2.079	.182	.208	+ .255	13.98
Winders' helpers	6	25	10	10	9.17	.90	.092	.09	— .017	1.85
Winders, female	20	23	10	10	.747	.765	.075	.077	+ .018	2.41
Wiremen	8	6	8	8	1.713	2.833	.214	.292	+ .680	33.19
Wiremen's helpers	2	2	8	8	1.165	.65	.146	.081	— .515	44.21
Wood workers	4	13	10	10	2.00	1.992	.20	.196	— .006	1.00
Total and av.	340	354	9.78	9.81	\$1.773	\$1.832	\$.181	\$.197	+ \$.050	3.33

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 and less	1	2	.....	.....	1	2	\$.33	\$.33	.....	.....	\$.33	\$.33
.42 to .49.	1	.....	.....	.....	1	.....	.42	.....	.....	.....	.42	.....
.50 to .58.	4	4	.....	.....	4	4	.54	.52	.....	.....	.54	.52
.50 to .66.	.....	.....	10	10	16	13	.....	.60	\$.65	\$.65	.65	.638
.67 to .74.	4	2	.....	.....	4	2	.67	.70	.....	.....	.67	.70
.75 to .83.	27	27	8	8	35	35	.753	.762	.75	.75	.752	.759
1.00 to 1.08.	16	45	4	7	20	52	1.00	1.00	1.00	1.00	1.00	1.00
1.09 to 1.16.	1	.....	.....	1	1	1	1.15	.....	1.10	1.10	1.15	1.10
1.25 to 1.28.	10	7	1	.....	11	7	1.25	1.25	1.25	.....	1.25	1.25
1.34 to 1.41.	3	3	.....	.....	3	3	1.35	1.40	.....	.....	1.35	1.40
1.50 to 1.58.	50	40	.....	.....	50	40	1.50	1.50	.....	.....	1.50	1.50
1.50 to 1.66.	4	.....	.....	.....	4	4	1.615	1.612	.....	.....	1.615	1.612
1.75 to 1.83.	52	41	.....	.....	52	41	1.75	1.75	.....	.....	1.75	1.75
1.84 to 1.91.	1	3	.....	.....	1	3	1.85	1.85	.....	.....	1.85	1.85
2.00 to 2.08.	48	27	.....	.....	48	27	2.00	2.00	.....	.....	2.00	2.00
2.25 to 2.33.	14	15	.....	.....	14	15	2.250	2.25	.....	.....	2.250	2.25
2.50 to 2.58.	23	32	.....	.....	23	32	2.50	2.50	.....	.....	2.50	2.50
2.67 to 2.74.	1	.....	.....	.....	1	.....	2.67	.....	.....	.....	2.67	.....
2.75 to 2.83.	10	19	.....	.....	10	19	2.78	2.757	.....	.....	2.78	2.757
2.84 to 2.91.	4	3	.....	.....	4	3	2.863	2.867	.....	.....	2.863	2.967
3.00 to 3.08.	16	17	.....	.....	16	17	3.00	3.00	.....	.....	3.00	3.00
3.25 to 3.33.	10	11	.....	.....	10	11	3.25	3.25	.....	.....	3.25	3.25
3.50 to 3.58.	9	15	.....	.....	9	15	3.50	3.50	.....	.....	3.50	3.50
3.75 to 3.83.	.....	1	.....	.....	.....	1	.....	3.75	.....	.....	.....	3.75
4.00 to 4.08.	1	7	.....	.....	1	7	4.00	4.00	.....	.....	4.00	4.00
4.50 to 4.58.	1	.....	.....	.....	1	.....	4.50	.....	.....	.....	4.50	.....
Total and av.	311	328	29	26	340	354	\$1.869	\$1.914	\$.747	\$.792	\$1.773	\$1.839

Remarks.—The manufacture of electric and gas supplies shows a large gain for 1905, as would be expected from the increasing use of electricity and gas throughout the country. There was an increase of 12 per cent. in the total capital invested, every item of investment showing an increase. Especially noticeable is the 31 per cent. gain in the amount invested in land, indicating the establishment of the industry on a more permanent basis. The number of employees increased 4 per cent.; the value of the total wages and salaries paid, 7 per cent.; and the value of the output, 12 per cent. Labor's share of the industry product was large each year—about 68 per cent. Employment was somewhat less regular in 1905. A few women were employed each year, chiefly as winders. These worked uniformly 10 hours per day. Female help received lower wages in this industry than the average daily wages of women for all industries. Men, on the contrary, received slightly higher than the average wages.

22. EXCELSIOR—5 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	2	2		
Number of male partners	2	2		
Number of female partners				
Total number of partners	2	2		
Number of corporations	3	3		
Number of male stockholders	11	12	+ 1	9.09
Number of female stockholders	3	2	— 1	33.33
Total number of stockholders	14	14		
Total number of partners and stockholders	16	16		
Smallest number of persons employed	102	108	+ 6	5.88
Greatest number of persons employed	123	134	+ 11	8.94
Average number of persons employed	111	118	+ 7	6.31
Average days in operation	273	275	+ 2	0.73

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$23,785 00	\$35,558 70	+ \$11,773 70	48.50
Buildings and fixtures	36,700 95	45,871 57	+ 9,170 62	24.99
Machinery, etc.	83,984 35	94,445 00	+ 10,460 65	12.46
Cash and other capital	113,608 59	102,242 41	— 11,366 18	10.00
Total	\$258,078 89	\$278,117 68	+ 20,038 79	7.77

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$130,601 89	\$145,714 15	+ \$15,112 26	11.57
Other material used	7,765 82	7,152 74	— 613 08	7.89
Wages	40,362 61	46,338 34	+ 6,025 73	14.93
Salaries	16,000 00	16,910 00	+ 910 00	1.37
Profit and minor expenses ..	103,622 36	111,017 68	+ 7,395 22	7.14
Goods made and work done ..	298,952 68	327,182 81	+ 28,230 13	9.44

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$298,959 68	\$327,183 81
Value of stock used and material consumed in production	138,367 71	152,866 89
Industry product (gross production less value of stock and material)	160,584 97	174,315 92
Wages and salaries (Labor's direct share of product)	56,962 61	63,298 34
Profit and minor expense fund (Industry product less wages)	103,622 36	111,017 58
Percentage of industry product paid in wages	Per cent. 35.47	Per cent. 36.31
Percentage of industry product devoted to profit and minor expenses	64.53	63.69

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,325 04	\$2,356 93	+ \$31 89	1.37
Average product per employee	2,693 27	2,772 74	+ 79 47	2.95
Average yearly earnings	362 63	399 12	+ 36 49	8.41

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	113	108	91.87	80.00	8.13	19.40
February	112	109	91.08	81.35	8.94	18.05
March	109	111	86.18	82.84	13.82	17.16
April	115	119	93.50	88.81	6.50	11.19
May	108	116	83.74	86.57	16.26	13.43
June	102	111	82.98	82.84	17.07	17.16
July	109	112	82.98	83.58	17.07	16.42
August	113	120	91.87	89.55	8.13	10.45
September	123	125	100.—	93.28	.....	6.72
October	119	129	96.75	94.08	3.25	5.97
November	114	134	92.68	100.—	7.32	.....
December	113	130	91.87	97.00	8.13	2.98
Average	111	118	90.24	88.00	9.76	11.94

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1901.	1905.	1904	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Bookkeepers, female	1	.....	8	.....	\$1.20	.....	\$.15	.....	.....	.....
Boys	.....	17	.....	10	.....	\$.912	.....	\$.091	.....	.....
Carpenters	.....	1	.....	10	.....	2.00	.....	.20	.....	.....
Engineers	3	2	10	10	2.50	2.50	.25	.25	.....	.....
Filers	1	1	10	10	1.75	1.75	.175	.175	.....	.....
Firemen	1	1	10	10	1.60	1.50	.16	.15	—\$.10	6.25
Foremen	7	11	10	10	2.00	1.841	.20	.184	— .159	7.95
Helpers	22	1	10	10	1.166	1.50	.116	.15	+ .334	28.64
Laborers	41	60	10	10	1.357	1.368	.135	.136	+ .011	.81
Machine tenders	24	1	10	10	1.55	1.57	.155	.157	+ .02	1.29
Machinists	7	9	10	10	2.143	2.22	.214	.222	+ .077	3.56
Millwrights	.....	1	.....	10	.....	1.62	.....	.162	.....	.....
Sawyers	.....	4	.....	10	.....	1.50	.....	.150	.....	.....
Sewers, female	65	6	10	10	.65	.65	.065	.065	.....	.....
Superintendents	.....	1	.....	10	.....	7.00	.....	.70	.....	.....
Teamsters	2	4	10	10	1.50	2.25	.15	.225	+ .75	50.00
Watchmen	2	3	10	10.66	1.30	1.283	.13	.12	— .017	1.30
Total	176	133	9.96	10.02	\$1.178	\$1.40	\$.118	\$.148	+.312	25.48

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904	1905.
\$0.50 to \$0.66	.....	.....	65	6	65	6	.....	.....	\$0.65	\$0.65	\$0.65	\$0.65
.64 to .91	.....	13	.....	.....	.....	13	.....	\$0.80	.....	.....	.....	.90
.92 to .99	9	4	.....	.....	9	4	\$0.95	.95	.....	.....	.95	.95
1.00 to 1.06	7	2	.....	.....	7	2	1.00	1.00	.....	.....	1.00	1.00
1.17 to 1.24	.....	1	.....	.....	1	.....	.....	1.20	.....	.....	1.20	.....
1.25 to 1.33	6	7	.....	.....	6	7	1.25	1.25	.....	.....	1.25	1.25
1.34 to 1.41	34	43	.....	.....	34	43	1.352	1.352	.....	.....	1.352	1.352
1.50 to 1.58	20	28	.....	.....	20	28	1.50	1.502	.....	.....	1.50	1.503
1.59 to 1.66	9	1	.....	.....	9	1	1.602	1.62	.....	.....	1.602	1.62
1.67 to 1.74	3	1	.....	.....	3	1	1.70	1.67	.....	.....	1.70	1.67
1.75 to 1.83	7	7	.....	.....	7	7	1.771	1.75	.....	.....	1.771	1.75
1.84 to 1.91	.....	3	.....	.....	.....	3	.....	1.95	.....	.....	.....	1.85
2.00 to 2.08	11	10	.....	.....	11	10	2.00	2.00	.....	.....	2.00	2.00
2.50 to 2.58	2	2	.....	.....	2	2	2.50	2.50	.....	.....	2.50	2.50
2.75 to 2.83	.....	1	.....	.....	.....	1	.....	2.75	.....	.....	.....	2.75
3.00 to 3.06	2	4	.....	.....	2	4	3.00	3.00	.....	.....	3.00	3.00
7.00 to 7.06	.....	1	.....	.....	.....	1	.....	7.00	.....	.....	.....	7.00
Total	110	127	66	6	176	133	\$1.49	\$1.53	\$0.659	\$0.65	\$1.178	\$1.49

Remarks.—An exceptional gain is exhibited by this industry for 1905. Nearly 50 per cent. more capital was invested in land, about 25 per cent. more in buildings, and 12 per cent. more in machinery, than in the previous year. There was also an increase of 6 per cent. in the average number of employees, of 11 per cent. in the total wages and salaries paid, of 8 per cent. in the average yearly earnings of employees, of 10 per cent. in the value of the material used, and of 9 per cent. in the output. The average daily wages were over 26 per cent. higher in 1905, but were still very low. Only 36 per cent. of the value of the industry product was paid in wages each year. There were 66 female employees in 1904, and but 6 the following year—a remarkable decrease. There is possibly an error in the number reported by one or more establishments. This decrease is chiefly responsible for the apparent increase of 26 per cent. in the average daily wages paid, as the daily wages of men alone show a gain of only 3 per cent. Employment was somewhat irregular each year.

23. FANCY ARTICLES—10 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	6	6		
Number of male partners	11	12	+ 1	9.09
Number of female partners				
Total number of partners	11	12	+ 1	9.09
Number of corporations	4	4		
Number of male stockholders	23	30	+ 7	30.44
Number of female stockholders	1	1		
Total number of stockholders	24	31	+ 7	29.17
Total number of partners and stockholders	35	43	+ 8	22.86
Smallest number of persons employed	436	437	+ 1	0.23
Greatest number of persons employed	456	530	+ 74	16.23
Average number of persons employed	444	462	+ 18	4.05
Average days in operation	309	308	— 1	0.32

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$8,550 00	\$10,098 00	+ \$1,548 00	18.11
Buildings and fixtures	37,106 86	40,002 00	+ 2,895 14	7.80
Machinery, etc.	78,243 36	100,649 00	+ 22,405 65	28.61
Cash and other capital	185,808 04	200,511 32	+ 14,642 08	7.88
Total	\$309,768 85	\$351,260 32	+ \$41,491 47	13.39

TABLE III A VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$249,316 09	\$270,004 08	+ \$20,688 58	8.30
Other material used	30,439 92	31,867 95	+ 1,428 08	4.69
Wages	157,412 15	164,008 06	+ 6,595 91	4.19
Salaries	40,210 94	41,402 26	+ 1,191 32	2.96
Profit and minor expenses ...	111,506 35	114,487 46	+ 2,981 11	2.67
Goods made and work done ..	558,885 44	621,770 39	+ 62,884 95	5.58

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$588,885 44	\$621,770 39
Value of stock used and material consumed in pro- duction	279,758 00	301,873 61
Industry product (gross production less value of stock and material)	309,129 44	319,897 78
Wages and salaries (Labor's direct share of pro- duct)	197,023 09	205,410 33
Profit and minor expense fund (Industry product less wages)	111,506 35	114,487 46
Percentage of industry product paid in wages.....	Per cent. 63.93	Per cent. 64.21
Percentage of industry product devoted to profit and minor expenses	36.07	35.79

TABLE IV— AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, --, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$607 68	\$760 30	+ \$152 62	8.98
Average product per employee	1,326 32	1,389 11	+ 62 79	4.73
Average yearly earnings	354 52	355 00	+ 0 48	0.14

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	449	450	98.47	94.90	1.53	15.10
February	441	438	96.71	82.26	3.29	17.74
March	438	443	96.05	83.58	3.95	16.42
April	441	451	96.71	85.00	3.29	14.91
May	436	454	95.62	95.68	4.38	14.34
June	442	454	96.98	85.68	3.02	14.34
July	438	440	96.05	83.08	3.95	16.92
August	447	437	96.08	82.45	1.92	17.55
September	445	444	97.59	85.77	2.41	16.23
October	444	489	97.37	92.26	2.63	7.74
November	454	519	99.56	97.92	0.44	2.08
December	456	580	100.—	100.—	.....	.....
Average	444	468	97.37	87.17	2.63	12.83

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no of persons.		Average hours per day.		Average wages ¹ per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Apprentices	4	1	9.75	9	\$.628	\$.75	\$.064	\$.083	+	\$.127	2.04
Bench hands	2		10		2.00		.20				
Bench hands, female	43		10		.690		.069				
Buffers	11	14	10	10	1.977	2.25	.198	.225	+	.277	14.07
Cabinet makers	1		8		2.20		.275				
Carpenters	4	9	8.50	9	2.50	1.90	.294	.211	—	.600	24.00
Carvers	4	1	8	8	2.965	2.00	.371	.335	—	.365	12.31
Comb sawers	1		10		1.690		.162				
Cutters	3	2	10	10	1.583	1.25	.158	.125	—	.333	21.05
Decorators	3	15	8	9	2.733	2.771	.342	.346	+	.088	1.30
Die sinkers	2		10		2.00		.20				
Engineers	2	2	11	10	2.00	2.167	1.82	.217	+	.167	8.35
Engravers	3	6	10	10	2.417	2.208	.342	.221	—	.309	8.65
Firemen	1	1	10	10	1.80	1.80	.18	.18			
Foremen		2		10		3.00		.30			
Foundry men	1		10		2.50		.25				
Helpers	11	16	9.64	9.13	.788	.979	.082	.107	+	.191	24.24
Helpers, female		52		10		.632		.062			
Jewelers	8	12	9.63	9	1.908	1.639	.198	.215	+	.083	1.73
Laborers	32	11	10	9.27	2.234	1.706	.223	.184	—	.588	23.63
Laborers, female		6		10		.583		.058			
Lathers	11	3	8	8	2.636	3.00	.330	.375	+	.364	12.81
Machine tenders	25	99	10	10	1.274	1.40	.127	.14	+	.126	9.89
Machine tenders, female	35	1	10	10	.80	1.50	.08	.15	+	.900	150.00
Machinists	16	12	9.88	9.04	2.619	2.41	.265	.237	—	.300	7.98
Mold makers		1		8		2.50		.313			
Packers	2		10		1.585		.159				
Packers, female	2	1	10	10	.75	.75	.075	.075			
Plasterers	11		8		4.00		.50				
Plaster molders		12		8		3.192		.399			
Polishers		2		9		1.34		.150			
Pressmen	34		10		1.454		.145				
Printers	3	2	10	10	2.14	2.50	.214	.25	+	.36	16.82
Printers' helpers	1		10		1.10		.110				
Purse makers	91	94	10	10	1.345	1.389	.135	.139	+	.044	3.27
Purse makers, female	67	81	10	10	.782	.842	.078	.084	+	.060	7.67
Riveters		2		10		2.00		.20			
Riveters, female		4		10		.75		.075			
Satin finishers, female	5	34	10	10	.60	.600	.06	.061	+	.009	1.50
Sewers, female	6	7	10	10	.917	.821	.092	.082	—	.096	1.05
Shipping clerks	1	4	10	10	2.00	1.668	.20	.167	—	.332	16.60
Spinners	3		10		2.25		.225				
Stucco workers	6		8		2.00		.25				
Stucco workers' help- ers	1		8		1.00		.125				
Watchmen		1		10		1.25		.125			
Total and av.	456	504	9.81	9.79	\$1.41	\$1.326	\$.144	\$.135	—	\$.064	5.95

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 and less	1				1		\$.33				\$.33	
.50 to .58	12	11	31	35	43	47	\$.50	\$.50	\$.50	\$.504	.50	\$.503
.59 to .66		21	69	55	69	76		.648	.606	.606	.606	.617
.67 to .74	4	10	25	25	29	35	.67	.67	.681	.681	.679	.678
.75 to .83	17	9	13	14	30	23	.778	.777	.806	.75	.79	.76
.84 to .91		6		16		22		.84		.84		.84
1.00 to 1.08	15	19	19	30	34	49	1.00	1.00	1.00	1.00	1.00	1.00
1.09 to 1.16	1	2			1	2	1.10	1.11			1.10	1.11
1.17 to 1.24	9	9	4	5	13	14	1.17	1.17	1.17	1.17	1.17	1.17
1.25 to 1.33	49	26	2	2	51	28	1.276	1.278	1.33	1.33	1.378	1.281
1.34 to 1.41	4	9			4	9	1.37	1.359			1.37	1.359
1.50 to 1.58	24	44	1	2	25	46	1.50	1.50	1.50	1.50	1.50	1.50
1.59 to 1.66	8	9			8	9	1.615	1.613			1.615	1.613
1.67 to 1.74	12	16	1		13	16	1.67	1.67	1.67		1.67	1.67
1.75 to 1.83	11	9		1	11	10	1.759	1.761		1.80	1.759	1.765
1.84 to 1.91	3	6			3	6	1.863	1.877			1.863	1.877
2.00 to 2.08	23	25			23	28	2.00	2.00			2.00	2.00
2.17 to 2.24	6	9			6	9	2.20	2.183			2.20	2.181
2.25 to 2.33	33	10			33	16	2.256	2.25			2.256	2.25
2.34 to 2.41	3	5			3	5	2.40	2.40			2.40	2.40
2.50 to 2.58	5	14			5	14	2.50	2.50			2.50	2.50
2.59 to 2.66	2	6			2	6	2.60	2.608			2.60	2.608
2.67 to 2.74	2	2			2	2	2.67	2.68			2.67	2.68
2.75 to 2.83	14	10			14	10	2.764	2.806			2.764	2.803
2.84 to 2.91		1				1		2.89				2.89
3.00 to 3.08	10	11			10	11	3.00	3.00			3.00	3.00
3.25 to 3.33	2	1			2	1	3.29	3.25			3.29	3.25
3.50 to 3.58	1	3			1	3	3.50	3.50			3.50	3.50
4.00 to 4.08	11	7			11	7	4.00	4.00			4.00	4.00
4.09 to 4.16	1				1		4.16	4.16			4.16	4.16
Total and av.	298	318	158	186	456	504	\$1.738	\$1.675	\$.697	\$.730	\$1.41	\$1.336

Remarks.—The tables show a very satisfactory growth of this industry during the two years considered. There was an increase of from 4 per cent. to 29 per cent. in the capital invested in land, buildings and machinery; in the average number of persons employed, the material used, the total wages and salaries paid, and the output. Labor's share of the industry product was about 64 per cent. each year—a very fair proportion. Employment was apparently quite irregular in 1905. But the large percentage of unemployment for the first nine months of the year was due to the large increase in the number of employees in October. The additional number were retained through the remainder of the year. The apparent irregularity of employment indicates therefore only the natural change incident to the growth of the industry. Female help was employed in some of

the accessory occupations, but also in several of the more important. There was a larger increase in the number of female employees than in the number of male. There was a slight increase in the average daily wages of women. All female help worked ten hours per day each year, whereas the male employees averaged less than $9\frac{4}{5}$ hours.

24. FLOUR AND FEED—62 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904	1905	Amount.	Per cent.
Number of private firms	37	38	+ 1	2.70
Number of female partners	5	4	— 1	20.00
Number of male partners	55	57	+ 2	3.64
Total number of partners	60	61	+ 1	1.67
Number of corporations	25	24	— 1	4.00
Number of male stockholders	135	137	+ 2	1.48
Number of female stockholders	27	23	— 4	14.81
Total number of stockholders	162	160	— 2	1.23
Total number of partners and stockholders	222	221	— 1	0.45
Smallest number of persons employed	625	609	— 16	2.56
Greatest number of persons employed	707	757	+ 50	7.07
Average number of persons employed	606	603	— 3	0.45
Average days in operation	312	313	+ 1	0.32

TABLE II—INVESTMENT.

Classification,	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$504,790 13	\$454,910 65	— \$100,899 48	19.45
Buildings and fixtures	1,045,347 53	959,837 64	— 85,480 19	8.13
Machinery, etc.	1,465,907 68	1,173,671 73	— 292,235 95	19.94
Cash and other capital	2,419,068 20	2,194,741 98	— 224,326 22	9.27
Total	\$5,405,103 78	\$4,783,199 03	— \$711,911 75	12.98

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$12,868,333 78	\$12,454,450 34	— \$413,883 44	3.23
Other material used	658,966 47	632,324 94	— 26,641 53	4.84
Wages	390,284 80	395,208 21	+ 4,923 41	0.27
Salaries	182,444 73	176,304 00	— 6,140 73	3.37
Profit and minor expenses ..	1,008,081 54	1,000,444 89	— 7,636 65	0.75
Goods made and work done ..	15,109,051 32	14,648,732 38	— 460,318 94	3.05

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$15,109 051 32	\$14,648,732 38
Value of stock used and material consumed in production	13,529,290 25	12,076,774 28
Industry product (gross production less value of stock and material)	1,589,761 07	1,571,957 10
Wages and salaries (Labor's direct share of product)	578,729 53	571,512 21
Profit and minor expense fund (Industry product less wages)	1,008,081 54	1,000,444 89
	Per cent.	Per cent.
Percentage of industry product paid in wages	36.47	36.36
Percentage of industry product devoted to profit and minor expenses	63.52	63.64

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$8,401 06	\$7,314 47	— \$1,086 59	14.12
Average product per employee	22,687 76	23,004 03	+ 316 27	2.01
Average yearly earnings	506 02	506 09	+ 7 07	0.13

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	685	644	66.89	85.07	3.11	14.93
February	672	620	95.05	82.69	4.95	17.31
March	707	650	100.—	85.89	.....	14.14
April	690	633	93.35	83.62	6.65	16.38
May	671	631	94.91	83.25	5.09	16.65
June	670	617	94.77	81.51	5.23	18.49
July	636	609	89.96	80.45	10.04	19.55
August	625	639	89.40	84.41	11.60	15.59
September	651	732	92.08	96.70	7.99	3.30
October	686	757	96.89	100.—	3.11	.....
November	679	717	96.04	94.72	3.96	5.29
December	655	695	92.64	91.81	7.36	8.19
Average	666	663	94.20	87.53	5.80	12.43

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day		Average wages per day.		Average wages per hour.		Increase, +, or decrease, - per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Bagmen	1	1	10	10	\$1.75	\$2.00	\$.175	\$.20	+.25	14.28
Bolters	8	4	10.66	11	2.667	2.75	.265	.25	-.083	3.11
Bookkeepers	1	1	11	11	1.00	1.00	.....	.091	.....	.....
Bookkeepers, female.	3	2	10	10	1.39	.50	.139	.05	-.89	64.03
Branders	1	1	12	13	2.25	2.25	.187	.187	.....	.....
Carpenters	3	4	10	10	2.75	3.00	.275	.30	+.25	9.09
Cleaners	3	4	9	8	1.30	1.35	.163	.168	+.05	3.84
Coal passers	6	8	10	9.25	1.75	1.656	.175	.179	-.094	5.37
Coopers	2	.....	10	.....	2.00	.....	.80	.....	.....	.....
Elevator men	2	1	10	10	1.90	2.30	.19	.23	+.40	21.05
Engineers	20	23	10.30	10	2.233	2.22	.216	.222	-.013	.68
Firemen	12	11	10.33	9.36	1.893	1.915	.18	.204	+.046	2.46
Foremen	10	17	10	10	2.909	2.225	.22	.223	+.012	.79
Grain buyers	1	3	10	10	1.55	1.796	.155	.179	+.246	15.83
Grinders	11	13	10.09	10.33	2.370	2.014	.235	.194	-.392	15.38
Helpers	131	127	10.10	10.09	1.57	1.56	.155	.154	-.01	.637
Laborers	158	120	9.82	9.91	1.564	1.593	.162	.16	-.01	.697
Loaders	8	8	9.25	10	1.431	1.535	.153	.137	+.144	10.68
Machinists	1	.....	10	.....	8.50	.....	.85	.....	.....	.....
Machine tenders	20	19	11.20	11.26	2.066	2.136	.187	.189	+.04	1.91
Millers	81	89	10.21	9.87	2.371	2.244	.232	.227	-.027	1.19
Millhands	6	4	10	10	1.696	1.69	.169	.169	-.006	.35
Millwrights	6	8	10	10	2.875	2.631	.287	.263	-.244	8.48
Nailers	34	30	10.35	11.70	1.91	2.079	.184	.177	+.189	8.85
Oilers	24	22	9.83	9.82	1.71	1.747	.174	.177	+.037	2.16
Packers	89	91	10.40	9.95	1.914	1.915	.184	.199	+.001	.068
Purifier tenders	7	6	11.71	10.66	2.141	2.081	.182	.195	-.05	2.80
Roller tenders	3	2	10.66	10	2.167	2.50	.203	.25	+.333	15.82
Shippers	2	3	10	10	2.125	2.50	.212	.25	+.375	17.64
Smelters	1	1	10	10	2.50	2.50	.25	.25	.....	.....
Storekeepers	1	1	.....	10	.....	1.50	.....	.15	.....	.....
Sweepers	16	16	10.25	9.68	1.58	1.482	.154	.153	-.098	6.30
Teamsters	18	24	10.22	10.46	1.614	1.638	.168	.162	+.069	1.36
Truckers	9	5	10	10	1.519	1.50	.151	.15	-.019	1.24
Warehouse men	17	19	10	10	1.794	1.793	.176	.176	-.001	.066
Watchmen	10	8	13	10.75	1.794	1.616	.149	.15	-.179	9.99
Weighters	1	1	.....	10	.....	1.50	.....	.15	.....	.....
Total	719	687	10.16	10.07	\$1.822	\$1.841	\$.178	\$.183	+.069	2.16

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.50 to \$0.59.	1	.....	1	2	2	2	\$0.50	.....	\$0.50	\$0.50	\$0.50	\$0.50
.75 to .85.	5	6	.....	5	6	760	\$0.75	.....	.....	760	.75	.75
.84 to .91.	9	1	.....	8	1	.87	.85	.....	.....	.87	.85	.85
1.00 to 1.08.	9	8	.....	9	8	1.00	1.00	.....	.....	1.00	1.00	1.00
1.09 to 1.18.	8	1	.....	5	1	1.143	1.14	.....	.....	1.143	1.14	1.14
1.26 to 1.33.	29	37	.....	26	37	1.26	1.26	.....	.....	1.26	1.26	1.26
1.34 to 1.41.	20	21	.....	20	21	1.358	1.358	.....	.....	1.358	1.358	1.353
1.42 to 1.49.	8	5	.....	8	5	1.43	1.44	.....	.....	1.43	1.44	1.440
1.50 to 1.58.	170	151	.....	170	151	1.501	1.502	.....	.....	1.501	1.508	1.508
1.59 to 1.66.	88	21	.....	88	21	1.635	1.633	.....	.....	1.635	1.633	1.633
1.67 to 1.74.	71	57	1	73	57	1.698	1.699	1.67	.....	1.698	1.699	1.699
1.75 to 1.83.	95	118	.....	95	118	1.761	1.759	.....	.....	1.761	1.759	1.759
1.84 to 1.91.	11	8	.....	11	8	1.885	1.883	.....	.....	1.885	1.889	1.889
1.92 to 1.99.	7	11	.....	7	11	1.92	1.923	.....	.....	1.92	1.923	1.923
2.00 to 2.08.	112	68	1	113	68	2.00	2.00	2.00	.....	2.00	2.00	2.00
2.09 to 2.16.	10	6	.....	10	6	2.115	2.12	.....	.....	2.115	2.12	2.12
2.17 to 2.24.	1	1	.....	1	1	2.20	2.20	.....	.....	2.20	2.20	2.20
2.25 to 2.33.	43	50	.....	43	50	2.259	2.264	.....	.....	2.259	2.264	2.264
2.34 to 2.41.	.....	1	.....	.....	1	.....	2.40	.....	.....	.....	2.40	2.40
2.50 to 2.58.	29	36	.....	32	36	2.50	2.50	.....	.....	2.50	2.50	2.50
2.59 to 2.66.	3	9	.....	3	9	2.61	2.61	.....	.....	2.61	2.61	2.61
2.67 to 2.74.	2	1	.....	2	1	2.685	2.67	.....	.....	2.685	2.67	2.67
2.75 to 2.83.	19	23	.....	19	23	2.75	2.75	.....	.....	2.75	2.75	2.75
2.84 to 2.91.	1	.....	.....	1	.....	2.90	.....	.....	.....	2.90	.....	.....
3.00 to 3.08.	14	11	.....	14	11	3.00	3.00	.....	.....	3.00	3.00	3.00
3.17 to 3.24.	1	.....	.....	1	.....	3.17	.....	.....	.....	3.17	.....	.....
3.25 to 3.33.	1	2	.....	1	2	3.27	3.26	.....	.....	3.27	3.26	3.26
3.50 to 3.58.	3	6	.....	3	6	3.50	3.50	.....	.....	3.50	3.50	3.50
3.84 to 3.91.	1	2	.....	1	2	3.85	3.85	.....	.....	3.85	3.85	3.85
4.09 to 4.16.	.....	1	.....	.....	1	.....	4.16	.....	.....	.....	4.16	4.16
4.17 to 4.24.	1	.....	.....	1	.....	4.17	.....	.....	.....	4.17	.....	.....
4.50 to 4.58.	1	.....	.....	1	.....	4.50	.....	.....	.....	4.50	.....	.....
8.00 to 8.06.	1	.....	.....	1	.....	8.00	.....	.....	.....	8.00	.....	.....
8.26 to 8.33.	.....	1	.....	.....	1	.....	8.25	.....	.....	.....	8.25	8.25
Total ..	716	685	3	2	719	687	\$1.824	\$1.844	\$1.39	\$1.50	\$1.808	\$1.84

Remarks.—The fact that returns were received from less than 10 per cent. of the firms engaged in this industry renders doubtful the value of the data presented in the foregoing tables. In 1900 the United States census reported 717 flour and grist mills in Wisconsin, with a total output valued at \$26,327,942. There was an increase of over \$2,000,000 in the value of the product in the decade from 1890 to 1900. In the latter year Wisconsin ranked eighth among the states in the production of flour. The increased utilization of the abundant water power of the state by all branches of manufacturing, the opening of thousands of acres in the northern part of the state to agriculture and stock-raising, and the increased transportation facilities resulting from

the building of new railroad lines, all make it improbable that this industry suffered such a loss for 1905 as is apparently indicated by the figures presented in the tables, based upon reports from only 62 establishments. As far however as these 62 firms were concerned there was a decrease of 13 per cent. in the capital invested, and a slight decrease in the average number of employees, the total wages and salaries paid, the material used, and the output. Employment was somewhat irregular, especially in 1905. Women were employed only as bookkeepers. Those women employed in 1905 received much lower wages than those employed in 1904.

25. FOOD PREPARATIONS—22 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904	1905	Amount	Per cent.
Number of private firms	4	3	— 2	50.00
Number of male partners	8	4	— 4	50.00
Number of female partners				
Total number of partners	8	4	— 4	50.00
Number of corporations	18	20	+ 2	11.11
Number of male stockholders	150	154	+ 5	3.34
Number of female stockholders	20	31	+ 9	6.90
Total number of stockholders	168	185	+ 3	1.60
Total number of partners and stockholders ..	196	199	+ 7	3.57
Smallest number of persons employed	518	545	+ 27	5.21
Greatest number of persons employed	2,290	2,473	+ 183	7.99
Average number of persons employed	1,038	1,081	+ 7	0.67
Average days in operation	151	150	+ 8	5.30

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$184,291 43	\$198,383 30	+ \$14,090 77	7.66
Buildings and fixtures	476,739 01	545,089 30	+ 68,350 29	1.43
Machinery, etc.	464,215 68	460,654 80	+ 5,430 18	1.17
Cash and other capital	1,855,642 50	1,372,638 01	— 483,004 49	6.12
Total	\$2,480,886 62	\$3,455,644 37	+ \$4,755 75	0.19

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$1,075,975 99	\$1,119,896 70	+ \$43,920 71	4.08
Other material used	917,891 53	920,836 70	+ 2,945 18	0.33
Wages	391,450 17	412,323 59	+ 20,873 42	5.33
Salaries	171,211 64	184,120 97	+ 12,909 33	7.54
Profit and minor expenses....	1,574,214 23	1,681,418 23	+ 107,204 01	6.81
Goods made and work done..	\$4,130,743 54	\$4,318,595 19	+ \$187,851 65	4.55

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$4,130,743 54	\$4,318,595 19
Value of stock used and material consumed in production	1,998,867 51	2,040,738 40
Industry product (gross production less value of stock and material)	2,136,876 03	2,277,851 79
Wages and salaries (Labor's direct share of product)	593,661 81	596,443 56
Profit and minor expense fund (Industry product less wages)	1,574,214 22	1,681,418 23
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	26.33	26.18
Percentage of industry product devoted to profit and minor expenses	73.67	73.82

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$2,390 07	\$2,410 91	+ \$20 84	0.87
Average product per employee.....	3,979 52	4,185 74	+ 206 22	5.36
Average yearly earnings	377 13	399 93	+ 22 80	6.06

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	518	576	22.63	23.29	77.38	76.71
February	519	545	22.66	23.04	77.34	77.96
March	567	583	24.76	23.51	75.34	76.49
April	677	702	29.57	26.88	70.43	71.62
May	709	735	30.96	29.73	69.04	70.28
June	1,027	826	44.85	33.40	55.15	66.60
July	2,290	2,473	100.—	100.—	0.00	0.00
August	2,358	2,163	98.60	87.47	1.40	12.53
September	1,430	1,273	62.45	61.49	37.55	48.53
October	1,068	955	46.55	39.69	53.45	61.33
November	750	811	32.75	39.79	67.25	67.21
December	647	725	28.25	29.39	71.75	70.63
Average	1,038	1,081	45.83	41.69	54.67	58.31

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Bakers	1	1	10	10	\$1.50	\$1.70	\$.15	\$.17	+ \$.20	13.33
Blacksmiths	3	1	10	10	2.00	2.00	.20	.20	—	—
Bookkeepers	2	—	10	—	2.00	—	.20	—	—	—
Boys	13	83	10	10	.861	.848	.086	.085	— .013	1.51
Carpenters	2	3	9.75	10	2.50	2.00	.256	.20	— .50	90.00
Engineers	11	7	10.91	10.71	2.164	2.376	.196	.222	+ .212	9.80
Firemen	5	5	12.10	11.20	1.712	1.73	.141	.159	+ .068	3.97
Foremen	15	11	9.90	10.36	2.472	2.415	.25	.232	— .067	2.81
Helpers	148	68	10.59	9.90	1.381	1.406	.13	.142	+ .065	1.81
Helpers, female	35	79	10	9.91	1.023	.889	.109	.09	— .134	13.10
Inspectors, female	7	6	10	10	1.036	1.125	.104	.118	+ .089	8.59
Laborers	1,106	1,224	10.03	10.20	1.529	1.535	.159	.15	+ .006	.39
Laborers, female	401	391	10.18	10.19	.913	.936	.09	.092	+ .023	2.53
Machine tenders	36	74	11.50	11.16	1.778	1.677	.155	.15	— .101	5.68
Machine tenders, female	13	14	12.50	10.21	.938	1.064	.075	.104	+ .131	14.04
Machinists	45	35	10	10	2.21	2.143	.221	.214	— .067	3.03
Millwrights	1	5	10	10	2.25	2.05	.225	.205	— .20	8.89
Packers	3	9	10	10	.75	1.028	.075	.108	+ .378	37.07
Pickers	—	25	10	10	—	.50	—	.05	—	—
Pickers, female	62	343	9.84	11.53	.711	.749	.072	.085	+ .088	5.34
Processors	4	5	10	10	1.638	1.80	.163	.18	+ .112	6.84
Sealers, female	7	10	6	7.20	1.32	1.436	.22	.199	+ .116	8.79
Sorters, female	20	—	10	—	.50	—	.05	—	—	—
Stenographers	1	—	10	—	2.00	—	.20	—	—	—
Teamsters	50	73	10.03	10.14	1.631	1.671	.163	.155	— .069	3.65
Timekeepers, female	2	—	10	—	1.43	—	.143	—	—	—
Tinmen	2	16	10.50	10	1.775	2.00	.169	.20	+ .286	13.67
Watchmen	10	7	11.10	11.29	1.67	1.60	.15	.148	— .17	10.19
Total and average	2,024	2,496	10.21	10.06	1.372	1.296	.134	.129	— .076	5.64

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58.	7	25	20	.....	27	25	\$.50	\$.50	\$.50	.....	\$.50	\$.50
.59 to .66.	7	6	20	18	27	24	.65	.65	.65	\$.65	.65	.65
.67 to .74.	.....	8	35	32	35	40	.....	.70	.70	.70	.70	.70
.75 to .83.	57	51	273	547	330	628	.764	.762	.759	.754	.76	.757
.84 to .91.	.....	.....	23	18	23	18	.....	.....	.901	.902	.901	.902
1.00 to 1.08.	78	72	64	107	142	179	1.00	1.00	1.00	1.00	1.00	1.00
1.09 to 1.16.	2	.....	1	2	3	2	1.10	.....	1.16	1.12	1.12	1.12
1.17 to 1.24.	.....	.....	15	15	15	15	.....	.....	1.17	1.17	1.17	1.17
1.25 to 1.33.	114	96	100	91	214	187	1.266	1.258	1.311	1.318	1.283	1.287
1.34 to 1.41.	21	71	.....	.....	21	71	1.359	1.35	.....	.....	1.352	1.35
1.42 to 1.49.	3	3	.....	8	3	11	1.44	1.44	.....	1.44	1.44	1.425
1.50 to 1.58.	586	741	1	5	587	746	1.50	1.50	1.50	1.50	1.50	1.50
1.59 to 1.66.	71	26	.....	.....	71	26	1.609	1.651	.....	.....	1.609	1.651
1.67 to 1.74.	32	32	.....	.....	32	32	1.67	1.671	.....	.....	1.67	1.671
1.75 to 1.83.	304	303	.....	.....	304	303	1.75	1.75	.....	.....	1.75	1.75
1.84 to 1.91.	48	42	.....	.....	48	42	1.867	1.87	.....	.....	1.867	1.87
1.92 to 1.99.	1	1	.....	.....	1	1	1.95	1.95	.....	.....	1.95	1.95
2.00 to 2.08.	98	119	.....	.....	98	119	2.00	2.00	.....	.....	2.00	2.00
2.09 to 2.33.	4	2	.....	.....	4	2	2.25	2.25	.....	.....	2.25	2.25
2.34 to 2.49.	1	.....	.....	.....	1	.....	2.45	.....	.....	.....	2.45	.....
2.50 to 2.58.	27	15	.....	.....	27	15	2.50	2.50	.....	.....	2.50	2.50
2.59 to 2.66.	1	1	.....	.....	1	1	2.63	2.63	.....	.....	2.63	2.63
2.67 to 2.74.	1	.....	.....	.....	1	.....	2.67	.....	.....	.....	2.67	.....
2.75 to 2.83.	3	1	.....	.....	3	1	2.793	2.80	.....	.....	2.793	2.80
3.00 to 3.08.	5	3	.....	.....	5	3	3.00	3.00	.....	.....	3.00	3.00
3.25 to 3.33.	.....	1	.....	.....	.....	1	.....	3.33	.....	.....	.....	3.33
4.00 to 4.08.	1	3	.....	.....	1	3	4.00	4.00	.....	.....	4.00	4.00
Total and average	1,472	1,652	552	843	2,024	2,495	\$1.553	\$1.516	\$.839	\$.866	\$1.372	\$1.296

Remarks.—The manufacture of food preparations in Wisconsin is confined chiefly to the canning, pickling, or preserving of various fruits and vegetables. There are also a few important milk condensing plants in the state. The establishments reporting show an increase for 1905 of from 4 per cent. to 8 per cent. in the capital invested in land, the materials used, the total wages and salaries paid, and the output. Labor's share of the industry product was very small each year—about 26 per cent. From the nature of the industry, a large majority of the workmen were employed only in the summer and the early fall. The average number of days of operation was but 151 in 1904 and 159 in 1905. Female help was employed in the regular occupations to a larger extent than in the merely accessory positions. The number of women employed was nearly 60 per cent. greater in 1905 than in 1904. Their average daily wages were slightly

lower; their hours, on the contrary, somewhat longer. The hours for both men and women averaged over 10 per day, each year. A large number of children were employed in this industry.

26. FURNITURE—40 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904	1905	Amount.	Per cent.
Number of private firms.....	6	6		
Number of male partners.....	11	11		
Number of female partners.....				
Total number of partners.....	11	11		
Number of corporations.....	34	34		
Number of male stockholders.....	366	320	— 46	12.57
Number of female stockholders.....	66	65	— 1	1.52
Total number of stockholders.....	432	385	— 47	10.89
Total number of partners and stockholders.....	443	396	— 47	10.61
Smallest number of persons employed.....	3,209	2,035	— 274	8.54
Greatest number of persons employed.....	3,500	3,578	— 19	0.33
Average number of persons employed.....	3,333	3,347	+ 14	0.42
Average days in operation.....	286	280		

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, — in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$393,467 57	\$441,245 01	+ \$47,778 34	12.14
Buildings and fixtures.....	773,420 52	821,123 76	+ 47,693 24	6.17
Machinery, etc.	921,919 30	921,809 79	— 109 60	0.01
Cash and other capital.....	2,692,236 49	2,346,500 00	— 315,646 40	11.86
Total	\$4,751,052 97	\$4,530,708 55	— \$220,394 42	4.64

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in.		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$1,970,668 77	\$1,976,235 51	+ \$5,566 74	0.28
Other material used	361,993 83	306,614 90	+ 4,681 07	1.28
Wages	1,279,052 87	1,206,285 84	+ 16,133 97	1.27
Salaries	264,931 67	286,593 60	+ 21,661 93	8.18
Profit and minor expenses....	898,856 41	900,302 88	+ 1,446 47	0.16
Goods made and work done..	\$4,775,503 55	\$4,824,969 73	+ \$49,479 18	1.04

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$4,775,503 55	\$4,824,962 73
Value of stock used and material consumed in production	2,332,663 60	2,342,850 41
Industry product (gross production less value of stock and material)	2,442,840 95	2,482,112 32
Wages and salaries (Labor's direct share of product)	1,543,984 54	1,581,820 44
Profit and minor expense fund (Industry product less wages)	898,856 41	900,302 88
	Per cent.	Per cent.
Percentage of industry product paid in wages	63.20	63.74
Percentage of industry product devoted to profit and minor expenses	36.80	36.26

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,425 46	\$1,353 68	— \$71 78	5.04
Average product per employee	1,432 79	1,441 56	+ 8 79	0.61
Average yearly earnings	383 75	390 98	+ 7 23	0.84

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	3,404	3,146	94.82	87.93	5.18	12.07
February	3,508	3,247	97.72	90.75	2.28	9.25
March	3,590	3,423	100.—	95.67	0.00	4.33
April	3,460	3,453	95.38	96.51	3.62	3.49
May	3,350	3,429	93.32	95.84	6.68	4.16
June	3,248	3,241	90.48	90.59	9.52	9.42
July	3,223	2,935	89.78	82.03	10.22	17.97
August	3,248	3,337	90.48	93.27	9.52	6.73
September	3,209	3,456	89.39	97.43	10.61	2.57
October	3,285	3,578	91.51	100.—	8.49	0.00
November	3,241	3,497	90.28	97.74	9.72	2.26
December	3,230	3,302	89.97	94.80	10.03	5.20
Average	3,333	3,347	92.84	93.55	7.16	6.45

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	10	30	10	10	\$.706	\$.818	\$.071	\$.082	+ \$.102	14.45
Assemblers		1		10		1.07		1.07		
Bench hands	14	24	10	10	1.011	1.39	.101	.189	+ .379	37.40
Blacksmiths	3	2	10	10	1.832	1.025	.183	.162	— .206	11.35
Bookkeepers		1		10		1.25		1.25		
Boys	17	26	10	10	.497	.677	.06	.068	+ .19	36.29
Brushmen		9		10		1.40		1.40		
Cabinetmakers	281	364	10	10	1.956	1.916	.196	.182	— .140	7.16
Carpenters	196	115	10	10	1.639	1.644	.164	.164	+ .006	.31
Carvers	17	44	10	9.98	2.314	2.154	.231	.213	— .19	8.91
Casket coverers		1		10		3.75		.375		
Casket coverers, female	3		10		.833		.083			
Casket makers		1		10		1.75		.175		
Chair makers	1	3	10	10	3.00	1.333	.30	.133	— 1.067	55.57
Clerks	1	4	10	10	2.00	1.875	.20	.188	— .125	6.25
Cloth hands	6	6	10	10	2.50	2.618	.25	.262	+ .118	4.72
Couch bottom makers		12		10		2.18		.218		
Craters	2	2	10	10	1.275	1.375	.128	.138	+ .100	7.27
Cutters	3	2	10	10	2.333	2.25	.233	.225	— .083	3.56
Cutters, female	1	1	8	9	1.17	1.33	.146	.149	+ .16	13.68
Designers		1		10		2.83		.283		
Dippers		1		10		1.50		.150		
Elevator men	1	2	10	10	1.00	1.125	.10	.113	+ .125	12.5
Engineers	22	21	10	10	2.286	2.373	.229	.237	+ .087	3.81
Filers	4	2	10	10	2.05	2.00	.205	.20	— .05	2.44
Fillers	7	5	9.71	10	1.36	1.40	.14	.14	+ .04	2.94
Finishers	453	309	10	10	1.519	1.579	.152	.158	+ .06	3.95
Finishers, female	14	12	9.86	10	.861	.804	.087	.080	— .077	.69
Firemen	23	14	10	10	1.657	1.877	.166	.188	+ .22	13.28
Fitters	3	2	10	10	2.00	2.50	.20	.25	+ .50	25.00
Foremen	27	33	10	10	2.552	2.766	.255	.277	+ .217	8.50
Forewomen		1		10		2.00		.20		
Glazers	10	25	10	10	1.438	1.408	.144	.141	— .03	2.09
Helpers	440	513	10	10	1.033	1.107	.103	.111	+ .074	7.16
Helpers, female	28	53	10	9.08	.918	.785	.092	.079	— .133	14.49
Laborers	647	309	10	10	1.265	1.303	.127	.130	+ .038	3.00
Lining makers, female	3		10		.943		.094			
Lumber inspectors	1		10		2.00		.20			
Lumber pilers	2	1	10	10	1.50	1.50	.15	.15		
Machine tenders	861	893	10	10	1.50	1.536	.15	.154	+ .036	2.40
Machine tenders, female	8	8	10	10	1.50	1.50	.15	.15		
Machinists	45	25	10	10	2.106	2.055	.211	.205	— .051	2.42
Mattress fillers	4	2	10	9	1.76	1.45	.176	.161	— .31	17.61
Mattress finishers		5		9		2.25		.25		
Mattress makers	9	6	9.44	10	2.178	1.962	.231	.196	— .216	9.92
Mattress makers, female	9	4	10	10	.483	.813	.048	.813	+ .33	69.39
Mattress tufters	1		10		2.00		.20			
Mattress tufters, female	1		10		1.17		.117			
Millwrights	1		10		2.70		.27			
Oilers		1		10		1.35		.135		
Packers	62	106	10	10	1.383	1.371	.138	.137	— .012	.87
Painters	14	35	10	10	1.55	1.419	.155	.142	— .131	8.45
Planers		1		10		1.15		.115		
Polishers	6	11	10	10	2.10	1.947	.21	.195	— .153	7.29
Reed workers	9	7	10	10	1.722	1.797	.172	.18	+ .075	4.36
Riveters	8	6	10	10	1.563	1.627	.156	.163	+ .062	3.97
Sandpaperers	4	19	10	10	.80	1.31	.08	.131	+ .51	60.36
Sawyers	1	7	10	10	2.00	1.521	.20	.153	— .471	23.55
Scalers	2	4	10	10	1.74	1.785	.174	.178	+ .045	2.48
Sewers, female	31	29	9.42	9.79	.974	.967	.103	.098	— .012	1.23
Shapers	1	2	10	10	1.75	1.75	.175	.175		
Shipping clerks	29	24	9.97	9.96	1.534	1.867	.154	.186	+ .333	21.09

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES—Continued.

Occupations.	Total No. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905		
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt. Per ct.		
Spring makers	34	24	10	10	1.514	1.394	.151	.139	—	.120	7.98
Tackers	5	4	10	10	1.75	2.00	.175	.20	+	.25	14.29
Teamsters	20	29	9.95	9.97	1.512	1.606	.152	.167	+	.154	10.19
Tinners	1	1	10	10	1.75	1.75	.175	.175	.....	.....	.....
Trimmers	5	4	10	10	1.71	1.725	.171	.173	+	.015	.88
Trimmers, female	3	.....	10	.....	.75	.....	.075	.....	.....	.....	.....
Truck hands	4	33	10	10	1.413	1.30	.141	.13	—	.113	8.00
Turners	2	3	10	10	2.00	1.667	.20	.167	—	.333	16.65
Upholsterers	89	84	10	10	2.002	1.983	.20	.198	—	.019	.95
Varnishers	24	39	10	10	1.681	1.816	.168	.183	+	.135	8.03
Veneers	6	5	10	10	1.325	1.42	.133	.142	+	.096	7.17
Watchmen	23	29	11.22	10.02	1.565	1.519	.139	.143	—	.046	2.94
Weavers .....	.....	1	.....	10	.....	3.50	.....	.35	.....	.....	.....
Wipers	2	.....	10	.....	1.275	.....	.128	.....	.....	.....	.....
Wood workers	11	.....	10	.....	1.659	.....	.169	.....	.....	.....	.....
Yardmen	22	19	10	10	1.539	1.403	.154	.147	—	.071	4.61
Total	3,619	3,473	10	10	\$1.462	\$1.497	\$.146	\$.15	+	\$.035	2.39

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.34 to \$.41..	1				1		\$.40				\$.40	
.42 to .49..	5	1	7	4	12	5	.45	.45	.45	.45	.45	.45
.50 to .58..	83	71	2	12	85	83	.51	.51	.525	.51	.51	.51
.59 to .90..	54	50	2	7	56	63	.63	.618	.625	.607	.63	.616
.67 to .74..	90	28	6		96	28	.667	.661	.67		.665	.661
.75 to .83..	97	112	31	40	123	152	.764	.77	.76	.779	.764	.773
.84 to .91..	58	41	12	3	70	44	.876	.878	.87	.867	.876	.877
.92 to .99..	8	14	2		10	14	.935	.935	.92		.932	.935
1.00 to 1.08..	124	142	8	15	132	157	1.005	1.003	1.00	1.005	1.005	1.001
1.09 to 1.16..	184	119	3		187	119	1.126	1.127	1.10		1.125	1.127
1.17 to 1.24..	92	68	6	5	98	73	1.198	1.199	1.19	1.194	1.198	1.193
1.25 to 1.33..	481	453	12	10	493	463	1.259	1.26	1.257	1.258	1.259	1.264
1.34 to 1.41..	503	438	1	2	504	440	1.377	1.377	1.35	1.35	1.377	1.377
1.42 to 1.49..	42	58			42	58	1.45	1.454			1.45	1.454
1.50 to 1.58..	596	617	8	9	504	626	1.501	1.505	1.50	1.50	1.501	1.505
1.59 to 1.65..	191	144			191	144	1.62	1.623			1.62	1.623
1.67 to 1.74..	32	64			32	64	1.678	1.683			1.678	1.683
1.75 to 1.83..	291	270			291	270	1.762	1.759			1.762	1.759
1.84 to 1.91..	27	92			27	92	1.872	1.871			1.872	1.871
1.92 to 1.99..		10				10		1.95				1.95
2.00 to 2.08..	232	227	1	1	233	229	2.00	2.00	2.00	2.00	2.00	2.00
2.09 to 2.16..	5	10			5	10	2.122	2.126			2.122	2.126
2.17 to 2.24..	11	15			11	15	2.175	2.17			2.175	2.17
2.25 to 2.33..	120	96			120	96	2.253	2.254			2.253	2.254
2.34 to 2.41..	6	15			6	15	2.37	2.38			2.37	2.38
2.50 to 2.58..	108	107			108	107	2.50	2.50			2.50	2.50
2.59 to 2.66..	8	10			8	10	2.626	2.627			2.626	2.627
2.67 to 2.74..	4	1			4	1	2.68	2.67			2.68	2.67
2.75 to 2.83..	24	33			24	33	2.754	2.76			2.754	2.76
2.84 to 2.91..	1	1			1	1	2.88	2.88			2.88	2.88
3.00 to 3.08..	24	25			24	25	3.00	3.00			3.00	3.00
3.09 to 3.16..	1				1		3.12				3.12	
3.17 to 3.24..	1	1			1	1	3.20	3.20			3.20	3.20
3.25 to 3.33..	13	7			13	7	3.311	3.261			3.311	3.261
3.50 to 3.58..	8	12			8	12	3.50	3.50			3.50	3.50
3.67 to 3.74..	1	1			1	1	3.67	3.67			3.67	3.67
3.75 to 3.83..	1	1			1	1	3.80	3.75			3.80	3.75
4.00 to 4.08..	1	2			1	2	4.00	4.00			4.00	4.00
4.17 to 4.24..		2				2		4.17				4.17
5.25 to 5.33..		1				1		5.25				5.25
Total and av.	3,518	3,365	101	108	3,619	3,473	\$1.477	\$1.517	\$.933	\$.905	\$1.462	\$1.467

Remarks.—This industry, for many years one of the most important in the state, experienced a moderate growth during the years 1904 and 1905. There was an increase in the materials used, the average number of persons employed, the total wages and salaries paid, and the output. About 5 per cent. of the capital invested in this industry in 1904 was withdrawn in 1905. But the fact that there was an increase of 12 per cent. in the amount invested in land, and of 6 per cent. in the amount invested in buildings, makes it probable that the capital withdrawn

was only employed elsewhere temporarily, during a period when more cash capital was on hand than was needed in the conduct of the business. About 63 per cent. of the industry product, a large proportion, was paid in wages and salaries each year. Employment was more nearly uniform in 1905 than in 1904. The number of female employees was less than 3 per cent. of the total number each year. They were employed chiefly in the regular work of the industry, only a few working in the auxiliary occupations. Their hours of labor increased slightly for 1905, but were still less than 10 per day. There was a decrease of about 3 per cent. in their average daily wages. Men's wages, on the contrary, increased slightly.

27. FURS, GLOVES AND MITTENS—17 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	11	9	— 2	18.18
Number of male partners	17	13	— 4	23.53
Number of female partners	1	.....	— 1	100.00
Total number of partners	18	13	— 5	27.78
Number of corporations	6	8	+ 2	33.33
Number of male stockholders	24	44	+ 20	83.33
Number of female stockholders	1	8	+ 7	700.—
Total number of stockholders	25	52	+ 27	108.—
Total number of partners and stockholders ..	43	65	+ 22	51.16
Smallest number of persons employed	776	867	+ 91	10.44
Greatest number of persons employed	981	1,089	+ 108	5.91
Average number of persons employed	881	952	+ 71	8.06
Average days in operation	275	286	+ 11	4.—

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$10,300 00	\$16,300 00		
Buildings and fixtures	50,800 04	61,067 31	+ \$4,266 67	7.51
Machinery, etc.,	107,929 56	126,794 96	+ 18,865 88	17.47
Cash and other capital	500,887 98	861,139 83	— 19,749 65	2.19
Total	\$1,081,918 20	\$1,065,290 60	+ \$3,372 40	0.31

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$1,248,905 01	\$1,433,397 90	+ \$183,492 89	14.66
Other material used	112,119 56	112,618 48	+ 498 92	0.45
Wages	373,189 08	407,072 99	+ 33,904 91	9.09
Salaries	102,113 77	116,798 89	+ 14,685 12	14.38
Profit and minor expenses ...	105,698 61	122,509 43	+ 16,810 82	15.90
Goods made and work done..	1,942,005 03	2,191,395 69	+ 249,390 66	12.84

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$1,942,005 03	\$2,191,395 69
Value of stock used and other material consumed in production	1,361,084 57	1,545,016 39
Industry product (gross product less value of stock and material)	580,980 46	646,379 31
Wages and salaries (Labor's direct share of product)	475,281 86	523,890 88
Profit and minor expense fund (Industry product less wages)	105,698 61	122,509 43
Percentage of industry product paid in wages	Per cent. 81.90	Per cent. 81.06
Percentage of industry product devoted to profit and minor expenses	18.71	18.96

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Average capital per employee	\$1,228 05	\$1,140 01	— \$88 04	7.17
Average product per employee	2,204 82	2,301 89	+ 97 57	4.43
Average yearly earnings	423 57	427 60	+ 4 03	0.95

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	776	857	79.10	82.48	20.90	17.53
February	817	857	83.28	89.46	16.72	17.53
March	840	903	85.03	85.91	14.37	13.09
April	874	943	89.09	90.76	10.91	9.24
May	930	969	94.80	93.26	5.20	6.74
June	938	1,006	95.62	95.82	4.38	3.18
July	964	1,039	96.27	100.00	1.73	.....
August	954	1,036	97.25	99.71	2.75	0.29
September	961	1,033	100.—	99.42	.....	0.58
October	906	966	92.36	94.90	7.64	5.10
November	808	903	83.36	86.91	17.64	13.09
December	778	860	79.31	83.24	20.69	13.78
Average	881	952	80.81	91.63	10.19	8.37

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt	Per cent.
Apprentices	9	16	9.56	9.00	\$.944	\$.75	\$.099	\$.083	— .194	20.55
Apprentices, female	8	11	10.00	9.00	.50	.50	.05	.056	— .091	5.49
Binders, female	11	7	9.64	9.00	1.650	1.75	.173	.194	+ .021	43.00
Carpenters	1	1	10.00	10.00	2.25	1.17	.225	.117	— .108	20.55
Cleaners	2	2	8.00	10.00	2.00	2.00	.25	.25	— .000	10.23
Clerks	9	5	9.78	10.00	1.876	2.008	.192	.207	+ .192	16.64
Clerks, female	7	2	8.71	9.00	1.286	1.50	.148	.167	+ .214	2.88
Combers	2	2	10.00	9.00	2.20	2.20	.22	.244	— .020	60.00
Cutters	190	204	9.06	9.56	2.047	2.106	.212	.220	+ .050	2.88
Cutters, female	4	1	9.00	10.00	1.25	.50	.129	.05	— .75	10.23
Cutters' helpers	19	19	10.00	10.00	.612	.612	.061	.061	— .001	16.64
Distributors	8	8	10.00	10.00	2.53	2.53	.253	.253	— .000	10.23
Distributors, female	2	2	10.00	10.00	1.00	1.00	.10	.10	— .000	16.64
Engineers	2	2	10.00	10.00	2.25	2.25	.225	.225	— .000	10.23
Eyelet stringers	1	1	10.00	9.00	2.25	2.25	.225	.225	— .000	16.64
Finishers	3	4	10.00	9.25	2.00	2.125	.20	.23	+ .125	2.88
Finishers, female	9	10	9.33	9.20	1.633	1.614	.178	.175	— .049	2.88
Fitters	6	6	9.33	9.33	4.055	4.055	.413	.435	— .020	19.57
Fitters, female	10	10	10.00	9.00	2.00	2.00	.20	.228	— .028	21.03
Foremen	6	8	9.00	9.88	2.57	3.073	.266	.311	+ .503	14.50
Forewomen	4	3	8.75	9.33	1.656	1.307	.189	.140	— .348	36.78
Formers	22	25	9.95	10.00	1.131	1.296	.114	.13	+ .164	10.65
Formers, female	5	3	9.00	10.00	.802	1.097	.089	.11	+ .205	10.65
Furriers	8	8	10.00	10.00	1.564	1.731	.156	.173	+ .167	10.65
Glove makers, female	15	15	10.00	10.00	.75	.75	.075	.075	— .000	8.97
Helpers	19	20	9.42	9.90	1.048	1.142	.111	.115	+ .004	7.73
Helpers, female	14	13	9.00	10.00	.854	.788	.085	.079	— .006	8.91
Inspectors	5	8	10.00	9.88	1.75	1.584	.175	.161	— .156	30.39
Inspectors, female	1	1	10.00	10.00	1.33	1.33	.133	.133	— .000	11.79
Laborers	11	11	10.00	10.00	1.485	1.485	.148	.148	— .000	22.63
Liners, female	14	20	9.93	9.00	1.506	1.109	.16	.123	— .487	3.60
Machine operators	8	19	9.81	9.37	2.046	2.334	.27	.249	— .312	10.98
Machine operators, female	208	405	9.51	9.70	1.323	1.023	.139	.105	— .30	11.11
Machinists	6	8	9.33	9.33	3.112	3.00	.334	.322	— .112	2.71
Nailers	11	11	9.45	9.45	2.068	1.841	.219	.196	— .227	3.00
Office-boys	2	3	10.00	9.67	.90	.80	.09	.083	— .10	16.75
Packers	7	5	9.57	9.50	1.963	1.90	.204	.20	— .063	10.67
Packers, female	4	4	10.00	10.00	.63	.618	.063	.062	+ .013	5.67
Pasters	2	2	10.00	10.00	1.40	1.40	.14	.14	— .000	3.68
Pasters, female	6	5	10.00	9.00	.85	.85	.085	.084	— .001	8.03
Repairers, female	7	7	10.00	10.00	.77	.77	.077	.077	— .000	16.75
Sewers	6	7	9.00	9.14	4.00	3.857	.444	.422	— .143	10.67
Sewers, female	298	155	9.37	9.23	.872	.802	.083	.087	— .07	16.75
Tailors	2	2	10.00	10.00	2.335	2.335	.23	.235	+ .035	10.67
Tanners	4	8	10.00	9.75	2.063	1.719	.206	.178	— .314	5.67
Teamsters	1	1	10.00	10.00	3.00	3.00	.30	.317	+ .17	10.67
Time-keepers, female	1	1	10.00	10.00	1.00	1.00	.10	.10	— .000	10.67
Trimmers	2	2	9.00	9.00	1.50	1.50	.15	.15	— .000	16.87
Trimmers, female	6	6	9.50	9.50	.675	.675	.071	.071	— .000	28.50
Turners	8	15	9.00	9.94	1.055	.877	.117	.088	— .178	5.56
Turners, female	3	3	10.00	10.00	.50	.617	.05	.068	+ .117	
Total	968	1,096	9.53	9.57	\$1,402	\$1,324	\$.147	\$.138	— \$.079	

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.33 or less..		5	3	13	3	18	\$0.346	\$0.233	\$0.242	\$0.233	\$0.243	
.34 to .41.		3		12		15	.367		.374		.373	
.42 to .49.		1	1	12	1	13	.43	.44	.454	.44	.452	
.50 to .55.	8	19	19	49	27	68	\$0.50	.508	.522	.527	.510	.522
.56 to .60.	1	2	88	125	89	127	.60	.606	.627	.643	.627	.643
.61 to .74.	1	9	13	24	14	33	.67	.69	.701	.699	.697	
.75 to .83.	11	9	89	63	100	72	.801	.781	.785	.772	.787	.773
.84 to .91.		2	12	80	12	82		.875	.869	.876	.869	.876
.92 to .99.	8	5	134	23	142	28	.92	.938	.968	.959	.965	.955
1.00 to 1.08.	5	24	46	50	51	74	1.01	1.013	1.00	1.019	1.001	1.018
1.09 to 1.16.	21	9	5	15	26	24	1.09	1.13	1.142	1.125	1.10	1.127
1.17 to 1.24.		6	13	17	13	23		1.185	1.172	1.195	1.172	1.192
1.25 to 1.33.	13	19	40	50	59	69	1.268	1.271	1.304	1.272	1.296	1.271
1.34 to 1.41.	1	1	1	14	2	15	1.40	1.35	1.40	1.382	1.40	1.38
1.42 to 1.49.		6	2	6	2	14		1.458	1.45	1.461	1.45	1.46
1.50 to 1.58.	25	40	81	62	109	102	1.50	1.504	1.512	1.515	1.509	1.511
1.59 to 1.66.		2	3	7	3	9		1.63	1.65	1.613	1.65	1.616
1.67 to 1.74.	8	18	7	13	15	31	1.705	1.696	1.67	1.672	1.699	1.69
1.75 to 1.83.	55	19	13	15	68	34	1.767	1.763	1.773	1.77	1.768	1.769
1.84 to 1.91.		3		1		9		1.866		1.88		1.866
1.92 to 1.99.		4				4		1.953				1.953
2.00 to 2.08.	30	71	59	80	116	91	2.00	2.007	2.00	2.00	2.00	2.006
2.09 to 2.16.		3				3		2.113				2.113
2.17 to 2.24.	5	4			5	4	2.182	2.185			2.182	2.185
2.25 to 2.33.	4	13	4	6	9	21	2.25	2.257	2.25	2.25	2.25	2.255
2.34 to 2.41.		3				3		2.40				2.40
2.42 to 2.49.		4				4		2.445				2.445
2.50 to 2.58.	47	25	4		51	25	2.505	2.501	2.50		2.505	2.501
2.59 to 2.74.	2	1			2	1	2.67	2.70			2.67	2.70
2.75 to 2.83.	21	40			21	40	2.75	2.752			2.75	2.752
2.84 to 3.08.	11	23			11	22	3.00	3.00			3.00	3.00
3.09 to 3.24.		1				1		3.17				3.17
3.25 to 3.33.	2	3			2	3	3.33	3.297			3.33	3.297
3.34 to 3.58.	3	2			3	2	3.50	3.50			3.50	3.50
3.59 to 4.08.	11	9			11	9	4.009	4.011			4.009	4.011
4.09 to 4.53.	1	1			1	1	4.50	4.50			4.50	4.50
4.54 to 4.74.		1				1		4.67				4.67
4.75 to 8.33.	1	1			1	1	8.33	8.33			8.33	8.33
Total ...	348	417	620	679	908	1,096	\$1.977	\$1.977	\$1.08	\$1.935	\$1.402	\$1.324

Remarks.—This industry experienced a considerable growth in the years 1904 and 1905. Although there was but little increase in the total capital invested, the amount devoted to buildings increased 7½ per cent. and that devoted to machinery 17 per cent., indicating the more permanent establishment of the industry. There was an increase in 1905 of 4 per cent. in the average number of days of operation, of 8 per cent. in the number of employees, of 14 per cent. in the value of the materials used, and of 13 per cent. in the output. There was a very slight increase in the average yearly earnings of employees, in

spite of a decrease in the average daily wages paid—the apparent inconsistency being due to the irregularity in the length of time workmen were employed each year. A very large proportion, 81 per cent., of the industry product was paid in wages. A large number of children were employed in this industry, particularly during the summer vacation. About $\frac{3}{5}$ of all employees were females. They were employed chiefly in the regular occupations of the industry, only a few working in the minor employments. Their hours of labor were slightly less than 10 per day. There was a marked decrease in their average daily wages. It was chiefly among the better paid employees that this loss occurred. Thus there were 44 women receiving \$2.00 or over per day in 1904, while in 1905 the number was but 26.

28. IRON—35 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905	Amount.	Percent.
Number of private firms	13	11	— 2	15.38
Number of male partners	22	19	— 3	13.64
Number of female partners	1	.....	— 1	100.—
Total number of partners	23	19	— 4	17.39
Number of corporations	23	24	+ 1	9.09
Number of male stockholders	162	161	— 1	0.62
Number of female stockholders	28	46	+ 18	64.29
Total number of stockholders	190	207	+ 17	8.95
Total number of partners and stockholders	213	220	+ 7	3.29
Smallest number of persons employed	3,810	4,909	+ 1,099	28.71
Greatest number of persons employed	4,775	5,781	+ 1,006	21.07
Average number of persons employed	4,144	5,221	+ 1,077	25.99
Average days in operation	301	322	+ 21	6.98

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Percent.
Land	\$776,570 84	\$833,590 41	+ \$57,019 57	7.34
Buildings and fixtures	1,230,958 79	1,336,640 97	+ 105,682 18	8.59
Machinery, etc.	1,339,557 74	1,419,892 79	+ 80,335 05	6.00
Cash and other capital	2,932,730 06	3,256,370 49	+ 323,640 43	11.04
Total	\$6,279,817 43	\$6,846,494 06	+ \$566,677 23	9.02

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$5,227,037 99	\$8,453,897 91	+\$3,226,799 92	61.73
Other material used	1,058,766 36	1,213,271 48	+ 154,505 12	14.56
Wages	2,169,278 55	2,739,050 44	+ 569,777 89	27.46
Salaries	337,394 48	338,231 27	+ 836 81	0.25
Profit and minor expenses	2,327,880 47	2,784,033 75	+ 456,152 28	19.60
Goods made and work done..	11,120,357 83	15,527,419 85	+ 4,407,062 02	39.61

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$11,120,357 83	\$15,527,419 85
Value of stock used and other material consumed in production	6,285,804 35	9,007,009 30
Industry product (gross production less value of stock and material)	4,834,553 48	5,830,320 46
Wages and salaries (Labor's direct share of product)	2,506,673 01	3,076,297 71
Profit and minor expense fund (industry product less wages)	2,327,880 47	2,784,033 75
Percentage of industry product paid in wages.....	Per cent. 51.85	Per cent. 52.49
Percentage of industry product devoted to profit and minor expenses	48.15	47.51

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,515 40	\$1,311 34	— \$204 06	13.47
Average product per employee	2,683 48	2,974 03	+ 290 55	10.83
Average yearly earnings	593 47	594 43	+ 0.96	0.18

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	3,810	4,983	79.79	86.20	20.21	13.80
February	4,047	5,151	84.75	89.10	15.25	10.90
March	4,224	5,293	88.40	91.56	11.54	8.44
April	4,209	6,100	88.15	88.22	11.85	11.78
May	3,974	5,145	83.23	89.00	16.77	11.00
June	3,916	4,980	82.01	86.30	17.99	11.70
July	3,811	4,904	79.81	84.83	20.19	15.17
August	3,943	5,043	82.58	87.23	17.42	12.77
September	4,064	5,228	85.11	90.44	14.89	9.56
October	4,332	5,410	90.72	93.58	9.28	6.42
November	4,618	5,619	96.71	97.80	3.29	2.80
December	4,775	5,781	100.—	100.—	—	—
Average	4,144	5,221	86.79	90.31	13.21	9.69

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Acetate men	12	10	11.87	11.87	\$2.017	\$2.008	1.97	1.97	—	—
Alcohol men	6	10	11.87	11.87	2.133	1.97	1.80	1.65	—	—
Apprentices	111	64	10	10	\$1.405	1.075	\$1.141	1.06	— \$.330	23.49
Ash pullers	8	10	11.5	11.2	1.00	1.623	.139	.145	+	.028
Assemblers	1	2	10	10	1.75	1.75	.175	.175	—	—
Assorters	18	7	10	10	1.226	1.271	.124	.127	+	.035
Babbitters	1	1	10	8	1.92	1.64	.192	.21	—	.28
Barrowmen	10	12	12	12	1.85	1.85	.185	.185	—	—
Blacksmiths	24	26	10	10.05	2.32	2.389	.232	.237	+	.069
Blacksmiths' helpers	6	6	10	10.4	1.50	1.64	.150	.156	+	.14
Blast men	7	11	11.14	11.14	1.879	1.879	.188	.188	—	—
Boiler makers	6	6	10	10	2.358	2.583	.236	.258	+	.225
Boiler washers	3	4	12	13	1.963	2.015	.157	.166	+	.132
Bookkeepers	1	1	10	10	3.20	3.20	.32	.32	—	—
Boys	339	126	10.06	9.94	1.921	1.052	.105	.105	+	.131
Brakemen	18	10	10	10	2.011	2.011	.201	.201	—	—
Braggamen	22	12	12	12	1.773	1.773	.148	.148	—	—
Cagers	4	4	12	12	1.80	1.90	.15	.158	+	.10
Carpenters	27	23	10	10	2.283	2.425	.229	.243	+	.142
Carriers	8	8	10	10	1.95	1.95	.195	.195	—	—
Cartmen	5	5	10	10	1.85	1.85	.185	.185	—	—
Catchers	9	9	8	8	4.433	4.613	.564	.577	+	.180
Chargers	26	28	12	11.71	1.747	1.833	.146	.157	+	.083
Chippers	45	10	10	10	1.709	1.709	.171	.171	—	—
Clinder snappers	4	4	12	12	1.84	1.90	.153	.158	+	.06
Cleaners	8	8	12	12	1.663	1.653	.13	.137	+	.075
Clerks	3	3	10	10	2.60	1.95	.25	.195	—	.55
Clippers	28	10	10	10	1.709	1.709	.171	.171	—	—
Coal hands	2	20	12	12	1.98	1.864	.16	.155	—	.066
Core boys	9	10	10	10	1.189	1.189	.119	.119	—	—
Core makers	104	165	10	10	1.607	1.694	.161	.161	+	.087

MANUFACTURING RETURNS, 1904-1905.

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TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.—Continued.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	P. r. ct.
Core makers, female	15	10				.70		.07		
Counters	18	17	11	11	1.67	1.76	.159	.16	+	.09 5.39
Crane men	6	8	10.67	10.5	2.088	2.181	.195	.208	+	.088 4.70
Cupola tenders	4	17	10	10	2.125	2.139	.213	.208	+	.057 2.63
Cutters	9	10			1.897		.187			
Drillers	4	2	10	10	1.55	1.685	.155	.163	+	.075 4.81
Drillers' helpers	2	10			1.05		.105			
Drivers	3	10			1.52		.152			
Electricians	7	8	10.57	10.25	1.907	2.094	.19	.204	+	.187 9.81
Electricians' helpers	1	10			1.75		.175			
Engineers	40	42	11.34	11.5	2.376	2.434	.21	.216	+	.108 4.55
Engine wipers	2	12			1.65		.165			
Filers	4	10			2.60		.26			
Filers	25	26	11.04	11.08	1.748	1.846	.158	.166	+	.098 5.61
Finishers	23	22	11.48	10.91	2.857	2.912	.240	.267	+	.076 1.93
Firemen	43	63	11.77	11.55	1.81	1.917	.154	.166	+	.107 5.91
Flask carriers	2	3	10	10	1.85	1.80	.185	.18	—	.05 2.70
Foremen	17	17	10.47	10.47	2.066	2.256	.20	.216	+	.180 7.63
Framers	12	12			1.75		.149			
Furnace tenders	2	15	10.44	11.33	2.344	2.203	.225	.196	—	.141 6.02
Gas men	2	2	12	12	2.02	2.15	.168	.179	+	.13 6.44
Gate tenders	1	10			1.50		.15			
Girls	19	10				.656		.066		
Graders	1	12			2.30		.192			
Grate men	2	10			1.45		.145			
Grinders	6	15	10.33	10	1.90	1.82	.174	.182	+	.02 1.11
Handy men	134	10				1.585	.159			
Heaters	12	12	12	12	5.30	5.30	.442	.442		
Helpers	220	344	10.24	10.16	1.406	1.555	.137	.153	+	.149 10.00
Helpers, female	12	10				.15	.115			
Hookers	48	48	8	8	2.554	2.635	.319	.354	+	.281 11.00
Hot bed men	63	16	12	12	1.596	1.319	.16	.132	—	.279 17.46
Hot sawyers	6	2	12	12		2.45	.204			
Inspectors	6	3	10.83	12	2.667	1.888	.246	.157	—	.784 29.40
Iron carriers	18	20	12	12	3.07	2.15	.173	.179	+	.08 3.83
Iron workers	14	1	10	10	2.086	2.50	.204	.25	+	.404 22.74
Japanners	6	8	10	10	1.533	1.513	.153	.151	—	.020 1.30
Keepers	16	4	12	12	1.993	2.40	.166	.166	+	.407 20.42
Kiln tenders	1	4	12	12		1.85	.154			
Knife changers	2	2	10	12	1.98	2.05	.198	.171	+	.07 3.50
Laborers	1,400	1,809	10.10	9.94	1.492	1.54	.148	.155	+	.048 3.22
Lathe hands	1	10			1.75		.175			
Lever men	2	12				1.72	.143			
Loaders	56	36	10.57	10.78	1.717	1.734	.162	.161	+	.017 .92
Machine hands	208	374	10	10	1.746	2.038	.175	.204	+	.292 16.72
Machine tenders	58	58	10	10		1.399	.137			
Machinists	104	225	10	10.06	2.443	2.936	.244	.292	+	.493 20.13
Machinists' helpers	4	10			1.10		.11			
Masons	1	2	10	9	3.50	2.975	.35	.331	—	.525 15.00
Millwrights	4	4	12			2.635	.224			
Molders	976	876	9.70	9.87	2.408	2.523	.247	.256	+	.115 4.73
Molders' helpers	6	10				1.358	.136			
Mold tenders	1	10				1.00	.10			
Motormen	2	12				1.85	.154			
Mounters	27	26	10	10	2.343	2.529	.234	.253	+	.189 7.94
Nickel platers	4	1	10	10	2.50	2.50	.25	.25		
Nickel platers' helpers	2	10				1.26	.125			
Oilers	13	15	11.55	11.87	1.793	1.885	.151	.159	+	.069 5.13
Packers	4	11	10	10	1.50	1.159	.15	.116	—	.341 22.73
Painters	4	3	10	10	1.70	1.90	.17	.19	+	.20 11.76
Passers	7	13				1.64	.137			
Pattern makers	59	43	10	10	2.588	2.67	.259	.267	+	.062 3.17
Pilers	26	30	12	12	1.66	1.71	.138	.143	+	.07 3.01
Platers	10	10			2.00		.20			

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.—Continued.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Pokers	3		8		2.10		.263			
Polishers	14	25	10	10	2.464	2.774	.246	.277	+	.310 12.58
Pressmen	3	3	10	10	1.817	2.56	.182	.256	+	.743 40.89
Pourers	8		10		1.975		.198			
Pulpit men	10	12	12	12	1.05	1.70	.138	.142	+	.05 3.03
Pump men	1	3	10	11.33	2.10	1.967	.21	.174	—	.133 6.33
Pump tenders	2		12		1.75		.140			
Punchers	4	3	11	11	1.83	1.923	.166	.175	+	.093 5.03
Rail breakers	4		10		2.05		.205			
Range makers		1		10	2.25		.225			
Riggers		28		10	1.62		.162			
Roller hands	4	4	12	11	1.575	1.618	.131	.147	+	.043 2.73
Rollers	6	12	12	12	8.917	11.063	.743	.924	+	2.168 24.39
Roll turners	13	19	10	10	2.319	2.874	.232	.287	+	.055 1.95
Roughers	51	50	8	8	4.215	4.48	.537	.56	+	.265 6.49
Samplers		2		10	1.50		.15			
Sand-blast men		4		10	1.85		.185			
Sand cutters	2		10		1.75		.175			
Saw tenders		8		10	1.756		.176			
Section men		1		10	1.35		.135			
Shakers	1		10		1.50		.150			
Shearers	40	20	12	11.80	1.918	2.111	.16	.179	+	.193 10.06
Sheet metal workers		22		10	2.218		.222			
Shipping clerks	16	17	10	10	1.625	1.99	.163	.199	+	.367 22.46
Spellers	10	10	9.6	8.9	2.308	2.277	.24	.250	—	.031 1.34
Steam fitters	7	5	10	10	2.296	2.30	.230	.26	+	.304 13.24
Stockers	30	26	12	12	1.761	1.327	.147	.152	+	.006 3.75
Stove tenders	2	2	12	12	1.84	1.90	.153	.168	+	.06 3.96
Straighteners	54	55	11.86	10.55	2.027	2.132	.171	.202	+	.107 5.18
Stranders	28	24	9.43	9	2.697	3.615	.286	.318	+	.918 31.04
Sweepers		1		10	1.60		.16			
Switchmen	8	5	12	11.3	1.795	1.964	.15	.166	+	.160 9.42
Tallymen	2	2	12	12	1.75	1.80	.146	.15	+	.05 2.83
Teamsters	33	26	10	10.19	1.888	1.793	.139	.176	—	.095 5.08
Timber men	27		10		1.65		.165			
Tinners	9	9	10	10	2.022	2.353	.202	.235	—	.306 19.36
Tool makers		2		10	3.25		.325			
Tool tenders		1		10	1.85		.185			
Tracers	1	1	8	8	1.00	1.26	.125	.150	+	.25 25.00
Transfer men	2	2	12	12	1.70	1.75	.148	.140	+	.05 2.94
Wagon makers	2	2	10	10	2.00	2.00	.20	.20		
Washers	3		10		1.65		.165			
Watchmen	26	30	11.54	11.1	1.538	1.736	.135	.156	+	.135 8.64
Water tenders	4	2	12	12	2.248	2.025	.137	.219	+	.377 16.77
Whitewashers		3		10	1.75		.175			
Wipers		6		12	1.903		.158			
Wire workers	7	8	10	10	1.929	2.075	.193	.208	+	.146 7.57
Wood handlers		28		10	1.75		.175			
Total and averages	1,740	5,560	10.2	10.06	\$1.847	\$1.969	\$.181	\$.194	+	\$.105 5.68

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Classified daily wages, (inclusive.)	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.42 to \$.49		1			1		\$.42					\$.42
.50 to .59	16	17		5	16	22	.50	.50		.50	.50	.50
.60 to .69	8	15		13	8	29	.60	.62		.60	.61	.60
.70 to .74	61	20			61	20	.702	.699		.702	.699	.702
.75 to .83	75	36		15	75	51	.76	.795		.76	.761	.76
.84 to .91	202	24			202	24	.862	.854		.862	.854	.862
.92 to .99	1	1			1	1	.92	.95		.92	.95	.92
1.00 to 1.09	138	92		1	138	93	1.001	1.00	1.00	1.001	1.00	1.00
1.10 to 1.16	23	50		12	23	62	1.12	1.146	1.15	1.12	1.146	1.12
1.17 to 1.24	34	7			34	7	1.177	1.20		1.177	1.20	1.177
1.25 to 1.33	163	207			163	207	1.267	1.263		1.267	1.263	1.267
1.34 to 1.41	179	137			179	137	1.361	1.387		1.361	1.387	1.361
1.42 to 1.49	506	11			506	11	1.45	1.45		1.45	1.45	1.45
1.50 to 1.59	572	1,325			572	1,325	1.500	1.501		1.506	1.501	1.506
1.60 to 1.66	293	457			298	457	1.638	1.600		1.632	1.600	1.632
1.67 to 1.74	320	326			320	326	1.691	1.704		1.691	1.704	1.691
1.75 to 1.83	313	405			313	405	1.774	1.765		1.774	1.765	1.774
1.84 to 1.91	142	181			142	181	1.88	1.861		1.88	1.861	1.88
1.92 to 1.99	20	61			20	61	1.953	1.933		1.953	1.933	1.953
2.00 to 2.06	238	432			238	432	2.007	2.002		2.007	2.002	2.007
2.07 to 2.16	56	86			56	86	2.113	2.125		2.113	2.125	2.113
2.17 to 2.24	194	221			194	221	2.20	2.197		2.20	2.197	2.20
2.25 to 2.33	116	196			116	196	2.259	2.252		2.259	2.252	2.259
2.34 to 2.41	61	99			61	99	2.39	2.386		2.39	2.386	2.39
2.42 to 2.49	145	10			145	10	2.46	2.447		2.46	2.447	2.46
2.50 to 2.58	311	280			311	280	2.503	2.502		2.503	2.502	2.503
2.59 to 2.66	39	74			39	74	2.622	2.628		2.622	2.628	2.622
2.67 to 2.74	3	16			3	16	2.717	2.698		2.717	2.698	2.717
2.75 to 2.83	151	233			151	233	2.775	2.750		2.775	2.750	2.775
2.84 to 2.91	25	39			25	39	2.892	2.889		2.892	2.889	2.892
2.92 to 2.99		98				98		2.961			2.961	
3.00 to 3.06	174	68			174	68	3.002	3.004		3.002	3.004	3.002
3.07 to 3.16	11	87			11	87	3.114	3.104		3.114	3.104	3.114
3.17 to 3.24		84				84		3.222			3.222	
3.25 to 3.33	29	78			29	78	3.291	3.253		3.291	3.253	3.291
3.34 to 3.41	7	10			7	10						

Remarks.—This industry, one of the most important in the state, experienced a remarkable growth in the two years 1904 and 1905. There was an increase in the latter year of 9 per cent. in the total capital invested, all items of investment increasing from 6 to 11 per cent.; of 62 per cent. in the raw material used; of 15 per cent. in other materials used; of 26 per cent. in the number of employees; and of nearly 40 per cent. in the output. The average daily wages paid were about 6 per cent. higher in 1905. Employment was apparently somewhat irregular each year. But it is to be noted that the maximum of employment was in December, both in 1904 and in 1905; and that there was an increase from month to month, with but a few exceptions, beginning with January of 1904 and continuing up to December of 1905. This means that there was but very little unemployment in this industry, since a workman when once employed remained in the work. The great variety of occupations in this industry is noticeable. No women were employed in 1904, and but 46 in 1905. These all worked in subsidiary occupations. All worked 10 hours per day.

29. KNIT GOODS—17 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or, decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms.....	17	17		
Number of male partners.....	120	129	+ 9	7.50
Number of female partners.....	25	24	— 1	4.00
Total number of partners.....	145	153	+ 8	5.52
Number of corporations.....	145	153	+ 8	5.52
Number of male stockholders.....	2,724	2,800	+ 76	2.79
Number of female stockholders.....	2,919	2,985	+ 17	0.58
Total number of stockholders.....	2,858	2,977	+ 21	0.74
Total number of partners and stockholders.....	279	290	+ 11	3.94
Smallest number of persons employed.....				
Greatest number of persons employed.....				
Average number of persons employed.....				
Average days in operation.....				

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$58,791 72	\$92,230 75	+ \$33,439 03	56.88
Buildings and fixtures	204,300 14	327,379 39	+ 82,979 18	11.20
Machinery, etc.	643,441 87	853,706 46	+ 210,264 59	32.63
Cash and other capital	1,383,510 45	1,008,142 37	— 290,468 08	30.99
Total	\$2,380,144 18	\$2,386,351 90	— \$13,792 28	0.58

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$1,745,987 23	\$1,950,545 91	+ \$110,606 68	6.34
Other material used	341,253 20	345,434 04	+ 4,180 78	1.23
Wages	850,790 18	903,434 55	+ 42,674 37	5.02
Salaries	168,428 99	171,184 49	+ 2,757 49	1.64
Profit and minor expenses....	396,008 90	412,439 59	+ 16,435 68	4.15
Goods made and work done.	\$3,302,381 56	\$3,679,038 56	+ \$176,657 00	5.04

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$3,502,381 56	\$3,679,038 56
Value of stock used and other material consumed in production	2,087,190 49	2,201,979 95
Industry product (gross production less value of stock and material)	1,415,191 07	1,477,058 61
Wages and salaries (Labors direct share of product)	1,019,187 17	1,064,619 03
Profit and minor expense fund (Industry product less wages)	396,003 90	412,439 58
Percentage of industry product paid in wages.....	Per cent. 72.02	Per cent. 72.06
Percentage of industry product devoted to profit and minor expenses	27.98	27.92

TABLE IV—AVERAGE CAPITAL ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$833 38	\$822 58	— \$10 80	1.30
Average product per employee.....	1,226 32	1,278 78	+ 52 46	4.28
Average yearly earnings	297 80	310 54	+ 12 65	4.25

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	2,724	2,800	93.33	95.37	6.68	4.63
February	2,815	2,834	96.44	96.53	3.56	3.47
March	2,911	2,867	99.73	97.65	0.27	2.35
April	2,919	2,927	100.—	99.69	0.00	0.31
May	2,877	2,938	98.56	100.—	1.44	0.00
June	2,859	2,916	97.95	99.33	2.05	0.68
July	2,865	2,921	98.15	99.49	1.85	0.51
August	2,883	2,915	98.77	99.28	1.23	0.73
September	2,840	2,879	97.50	98.06	2.50	1.94
October	2,904	2,852	99.49	97.14	0.51	2.85
November	2,855	2,854	97.81	97.21	2.19	2.79
December	2,817	2,823	96.51	96.15	3.49	3.85
Average	2,856	2,877	97.84	97.99	2.16	2.01

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Boarders	4	14	10	10	\$1.00	\$.873	\$.10	\$.087	— \$.827	82.70
Box makers	14	15	10	10	1.711	1.688	.171	.169	— .023	1.34
Box makers, female ..	4	7	10	10	.79	.788	.079	.078	— .007	.80
Boys	2	8	10	10	.55	.706	.055	.071	+ .156	28.36
Carders	1	9	10	10	3.25	3.25	.325	.325		
Carders, female	8	8	10	10	.60	.60	.06	.06		
Carpenters	2	8	10	10	1.875	2.233	.188	.223	+ .349	18.65
Crocheters, female ..	100	160	10	10	.84	.894	.084	.089	+ .046	5.65
Cutters	3	6	10	10	1.738	1.366	.173	.137	— .367	21.18
Cutters, female		1	10	10	.54	.54	.054	.054		
Dryers	45	9	10	10	1.006	.944	.101	.094	— .061	6.07
Dyers	14	19	10	10	1.196	1.808	.120	.18	+ .067	50.75
Electricians	1	1	10	10	2.17	2.17	.217	.217		
Engineers	8	8	10.50	10.50	2.226	2.801	.212	.21	— .026	1.13
Fillers	1	1	10	10	2.00	2.00	.20	.20		
Finishers, female	113	133	9.90	9.87	.658	.681	.066	.068	+ .023	3.49
Firemen	7	6	10	10	1.839	1.887	.184	.187	+ .028	1.58
Foremen	19	21	10	10	2.638	2.754	.264	.275	+ .116	4.40
Forewomen	4	6	10	10	1.233	1.238	.123	.124	+ .006	0.41
Helpers	125	115	10	10	.934	1.048	.093	.106	+ .114	12.21
Helpers, female	202	257	9.98	10	.74	.744	.074	.074	+ .004	.54
Inspectors	4	10	10	10	.60	.60	.06	.06		
Knitters	74	73	9.83	9.84	2.508	2.306	.251	.235	— .190	7.93
Knitters, female	1,295	1,147	9.95	9.88	.941	.968	.095	.097	+ .027	2.87
Laborers	74	87	0.00	10	1.547	1.558	.155	.155	+ .006	.39
Laborers, female	67	31	10	10	.788	.871	.079	.087	+ .083	10.58
Laundrymen	1	1	10	10	2.00	2.00	.20	.20		
Loopers, female	2	27	10	10	1.25	.738	.125	.073	— .467	37.38
Machine operators, female ..	40	61	10	10	1.10	1.041	.11	.104	— .060	5.39
Machine tenders	3	10	10	10	1.50	1.50	.15	.15		
Machine tenders, female ..	13	4	10	10	.644	.878	.064	.088	+ .234	36.34
Machinists	23	24	10	10	2.765	3.00	.277	.30	+ .235	8.50
Matchers, female	49	52	10	10	1.35	1.35	.135	.135		
Menders, female	33	72	10	10	1.406	1.088	.141	.109	— .317	22.56
Millwrights	2	1	10	10	2.625	2.50	.263	.25	— .125	4.76
Nappers	6	6	10	10	.875	.875	.088	.088		
Packers	22	13	9.95	9.91	1.572	1.642	.158	.166	+ .07	4.45
Packers, female	10	44	10	10	.866	.726	.070	.073	+ .03	4.31
Pickers	1	10	10	10	2.08	2.08	.208	.208		
Piece workers		20	10	10		1.12		.112		
Piece workers, female		57	10	10		1.006		.101		
Porters	3	2	10	10	1.55	1.50	.155	.15	— .06	3.23
Pressers	64	62	10	10	1.841	1.75	.184	.175	— .081	4.94
Pressers, female	1	5	9	9.80	.75	.616	.063	.063	— .134	17.37
Reelers, female	3	10	10	10	.607	.607	.061	.061		
Ribbers		4	10	10		.588		.059		
Ribbers, female		2	10	10		.65		.065		
Sewers, female	94	30	9.49	9.60	.793	.633	.084	.065	— .160	20.18
Shipping clerks	8	3	10	10	1.644	1.75	.164	.175	+ .106	6.45
Singers	8	8	10	10	2.25	2.25	.225	.225		
Sorters	2	3	10	10	2.00	2.45	.20	.245	+ .45	22.50
Sorters, female	11	26	10	10	.651	.614	.065	.061	— .087	5.68
Spinners	2	5	10	10	2.60	1.90	.26	.19	— .70	26.92
Spinners, female	3	18	10	10	.82	.673	.082	.067	— .147	17.93
Spoolers	1	9	10	10	1.67	1.67	.166	.166		
Spoolers, female	52	45	9.92	9.91	.462	.552	.047	.056	+ .090	19.48
Stock mixers	1	1	10	10	2.50	2.50	.25	.25		
Sweepers	3	3	10	10	1.50	1.50	.15	.15		
Tappers	5	10	10	10	1.69	1.69	.169	.169		
Tappers, female	90	90	10	10	1.512	1.497	.151	.15	— .015	.99
Teamsters	1	10	10	10	2.00	2.00	.20	.20		
Timekeepers	1	1	10	10	2.00	2.25	.20	.225	+ .25	12.50
Timekeepers, female	1	9	10	10	.87	.87	.087	.087		
Tufts, female	9	5	10	10	.80	1.00	.08	.10	+ .20	25.00
Twisters		2	10	10		.80		.08		
Twisters, female	9	10	10	10	.568	.568	.056	.056		
Washers	1	10	10	10	1.83	1.83	.183	.183		
Watchmen	6	6	11.50	11.17	1.453	1.498	.146	.134	+ .04	2.75
Winders	4	4	10	10	1.808	1.813	.18	.181	+ .01	.55
Winders, female	8	23	10	9.96	.70	.563	.07	.067	— .137	19.57
Yarn men	1	10	10	10	2.00	2.00	.20	.20		
Total and av	2,897	3,921	9.95	9.97	\$1.041	\$1.085	\$.105	\$.104	— \$.006	.58

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 and under			9	54	9	54			\$.294	\$.309	\$.294	\$.309
.34 to .41			130	124	130	121			.347	.348	.347	.348
.42 to .49			52	90	52	27			.44	.430	.44	.431
.50 to .58	22	14	258	397	280	321	\$.541	.51	.524	.508	.525	.511
.59 to .67	12	3	130	175	192	181	.68	.60	.616	.617	.616	.617
.67 to .74	17	7	111	179	128	189	.67	.683	.688	.687	.686	.687
.75 to .83	64	52	405	346	472	393	.776	.752	.775	.787	.775	.788
.84 to .91	7	2	134	105	141	107	.969	.85	.871	.882	.871	.881
.92 to .99			19	29	19	29			.942	.985	.942	.925
1.00 to 1.08	20	43	486	407	515	450	1.003	1.005	1.004	1.004	1.004	1.004
1.09 to 1.16	6	30	82	116	88	146	1.108	1.121	1.113	1.125	1.113	1.124
1.17 to 1.24	12		53	19	65	19	1.17		1.199	1.17	1.194	1.17
1.25 to 1.33	35	53	146	191	181	240	1.261	1.26	1.29	1.268	1.284	1.263
1.34 to 1.41	9	9	65	112	74	121	1.368	1.397	1.362	1.354	1.362	1.355
1.42 to 1.49	1		10		11		1.42		1.423		1.423	
1.50 to 1.58	95	88	43	63	138	151	1.50	1.50	1.519	1.501	1.506	1.501
1.59 to 1.66	4	16	25	34	29	50	1.638	1.634	1.606	1.65	1.61	1.645
1.67 to 1.74	20	8		2	20	10	1.673	1.675		1.67	1.673	1.674
1.75 to 1.83	32	34	40	33	72	127	1.706	1.754	1.76	1.752	1.768	1.758
1.84 to 1.91	33	1	9		72	1	1.88	1.87	1.87		1.879	1.87
2.00 to 2.08	24	25	11	13	35	38	2.003	2.004	2.011	2.00	2.006	2.003
2.09 to 2.16	3		10		13		2.10		2.128		2.122	
2.17 to 2.24	6	1			6	1	2.19	2.17			2.19	2.17
2.25 to 2.33	19	32	1	19	20	51	2.252	2.253	2.25	2.25	2.252	2.252
2.34 to 2.41		1				1	2.35					2.35
2.42 to 2.49	6		3		9		2.45		2.46		2.453	
2.50 to 2.58	16	16		3	16	19	2.50	2.50		2.50	2.50	2.50
2.59 to 2.66		1	3		3	1	2.66		2.60		2.60	2.60
2.67 to 2.74	2	1			2	1	2.67	2.67			2.67	2.67
2.75 to 2.83	7	3			7	3	2.78	2.75			2.78	2.75
2.84 to 2.90		1				1	2.92					2.92
3.00 to 3.08	20	28	1	1	21	29	3.004	3.00	3.00	3.00	3.004	3.00
3.09 to 3.16		1				1	3.16					3.16
3.17 to 3.24	1	1			1	1	3.17	3.17			3.17	3.17
3.25 to 3.33	9	7			9	7	3.294	3.273			3.294	3.273
3.34 to 3.58	13	4			13	4	3.50	3.50			3.50	3.50
3.67 to 3.74		1				1	3.67					3.67
4.00 to 4.08	6	5			6	5	4.00	4.00			4.00	4.00
4.50 to 4.58	8	7			8	7	4.50	4.50			4.50	4.50
4.75 to 4.83		2				2	4.75					4.75
Total and av.	563	563	2,280	2,358	2,877	2,921	\$1.656	\$1.653	\$.889	\$.887	\$1.041	\$1.085

Remarks.—The tables show a moderate growth of this industry for the years 1904 and 1905. The industry became more permanently established, as is evidenced by the increase of 57 per cent. in the portion of the capital invested that was devoted to land, of 11 per cent. in the amount invested in buildings, and of 33 per cent. in that invested in machinery. There was an increase also of from 5 to 6 per cent. in the materials used, the total wages paid, and the output. The number of days of

operation was 4 per cent. greater in 1905, and largely in consequence of this there was an increase of 4 per cent. in the average yearly earnings of employees. Labor's share of the industry product was large each year—72 per cent. Employment was very uniform. This industry is one carried on largely by the labor of women and children, $\frac{4}{5}$ of the total number of employees being females. Consequently more women than men were employed in the majority of those occupations peculiar to the industry. The average hours of labor for both men and women were slightly less than 10 per day.

30. LEATHER—23 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	2	2	.....	.....
Number of male partners	4	4	.....	.....
Number of female partners .....	.....	.....	.....	.....
Total number of partners	4	4	.....	.....
Number of corporations	21	21	.....	.....
Number of male stockholders	4,809	1,341	— 3,467	72.11
Number of female stockholders	1,657	244	— 1,413	85.27
Total number of stockholders	6,465	1,585	— 4,880	75.48
Total number of partners and stockholders	6,469	1,589	— 4,880	75.44
Smallest number of persons employed	3,808	4,491	+ 683	17.94
Greatest number of persons employed	4,069	4,967	+ 898	22.07
Average number of persons employed	3,944	4,668	+ 724	18.36
Average days in operation	304	315	+ 11	3.62

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$900,192 68	\$900,834 88	+ \$642 20	0.07
Buildings and fixtures	1,713,680 82	1,847,823 43	+ 134,132 61	7.83
Machinery, etc.	1,457,904 60	1,464,697 72	+ 6,793 12	0.47
Cash and other capital	7,549,254 07	9,042,981 08	+ 1,493,727 01	19.79
Total	\$11,661,042 17	\$13,316,337 11	+\$1,655,294 94	14.00

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$11,143,459 43	\$15,897,939 85	+\$4,744,479 92	40.06
Other material used	1,752,204 64	3,229,477 81	+ 471,272 67	26.90
Wages	1,890,671 16	2,306,254 74	+ 306,583 58	16.14
Salaries	279,974 89	295,064 24	+ 15,089 35	5.39
Profit and minor expenses	2,118,192 62	2,328,811 57	+ 210,618 95	9.94
Goods made and work done .	17,193,495 74	22,941,540 21	+ 5,748,044 47	33.43

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$17,193,495 74	\$22,941,540 21
Value of stock used and other material consumed in production	12,895,637 07	18,111,409 06
Industry product (gross production less value of stock and material)	4,297,858 67	4,830,130 55
Wages and salaries (Labor's direct share of product)	2,118,192 62	2,328,811 57
Profit and minor expense fund (Industry product less wages)	2,118,192 62	2,328,811 57
	Per cent.	Per cent.
Percentage of industry product paid in wages	50.71	51.79
Percentage of industry product devoted to profit and minor expenses	49.29	48.21

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,001 72	\$2,850 50	— \$111 22	3.76
Average product per employee	4,350 41	4,914 64	+ 555 23	12.74
Average yearly earnings	481 69	472 36	— 9 30	1.93

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	4,036	4,491	99.19	90.43	0.81	9.53
February	4,046	4,586	99.44	92.33	0.56	7.67
March	3,985	4,558	96.46	91.77	3.54	8.23
April	3,937	4,579	96.78	92.19	3.24	7.81
May	3,931	4,508	96.61	90.66	3.39	9.34
June	3,883	4,656	95.67	93.74	4.33	6.26
July	3,903	4,687	97.62	94.36	2.48	5.64
August	3,964	4,640	97.43	93.43	2.56	6.56
September	3,883	4,636	93.93	94.34	6.07	5.66
October	3,808	4,732	93.59	95.25	6.41	3.72
November	3,980	4,884	96.68	95.33	3.42	1.67
December	4,069	4,967	100.—	100.—		
Average	3,944	4,608	96.98	98.98	3.07	6.02

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices		2		10		\$.83		\$.083		
Back grinders	1	1	10	10	\$1.75	1.75	\$.175	.175		
Beamsters	39	30	10	10	1.913	1.733	.101	.178	— .13	6.80
Beamsters' helpers ..	5		10		1.50		.150			
Blackens	9	12	10	10	1.739	1.739	.189	.177	— .02	1.12
Blacksmiths	3	5	10	10	2.063	1.99	.206	.199	— .063	4.41
Blacksmiths' helpers ..	9		10		1.50		.150			
Boys	6	4	10	10	.86	.887	.086	.089	+ .027	3.14
Carpenters	24	55	10	10	2.307	2.368	.231	.234	+ .036	1.81
Chrome men	3	5	10	10	1.83	1.609	.183	.160	— .223	12.46
Combers		2		10		1.67		.167		
Coppersmiths	4	5	10	10	2.185	2.15	.217	.215	— .01	.46
Coppersmiths' helpers ..	1		10		1.58		.158			
Curriers	1,061	1,081	10	10	1.812	1.868	.181	.187	+ .056	3.06
Curriers, female	115	164	10	10	1.068	.87	.106	.087	— .188	17.77
Curriers' helpers	328	296	10	10	1.334	1.529	.133	.153	+ .145	10.43
Cutters, female		6		10		.863		.086		
Dampers	6	6	9	10	1.67	1.67	.186	.167		
Dyers	1	1	10	10	2.83	3.00	.283	.30	+ .17	6.00
Dyers' helpers		1		10		2.00				
Electricians	2	3	10	10	1.67	1.79	.167	.179	+ .12	7.18
Elevator men		2		10		1.25		.125		
Engineers	13	30	9.68	10	2.846	2.474	.287	.247	— .399	13.07
Engineers' helpers ..	5	3	10.80	10.75	1.99	2.062	.194	.194	+ .062	4.62
Finishers	100	120	10	10	1.531	1.748	.153	.175	+ .217	14.17
Finishers, female		17		10		.91		.091		
Finishers' helpers	16	10	10	10	1.016	1.01	.102	.101	— .006	.59
Finishers' helpers, female ..	8	14	10	10	.725	.665	.073	.067	— .06	8.26
Firemen	34	38	10.91	10.79	1.815	1.897	.181	.179	+ .089	4.89

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.—Continued.

Occupations.	Total no of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1935.		
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Fleashers	3	3	10	10	2.026	2.056	.203	.206	+	.03	1.43
Floor workers	3	3	10	10	1.300	1.50	.131	.150	—	.194	14.85
Foremen	7	8	9.71	10	2.854	2.903	.294	.290	+	.049	1.72
Forewomen	3		9.33		1.306		.140				
Fur sewers, female..	1	1	8	8	1.25	1.33	.146	.166	+	.08	6.40
Helpers	35	57	9.89	10	1.306	1.042	.132	.104	—	.264	20.21
Helpers, female		4		10		.812		.081			
Hide trimmers	1	2	10	10	1.85	1.05	.185	.105	—	.20	10.31
Laborers	1,106	972	9.99	10	1.515	1.57	.152	.157	+	.055	3.63
Lime handlers	4	5	10	10	1.75	1.75	.175	.175			
Machinists	13	15	10	10	2.56	2.433	.256	.243	—	.127	4.90
Machinists' helpers	3		10		1.067		.167				
Machine operators	28	32	10	10	1.87	1.865	.187	.186	—	.015	.803
Masons	5	9	10	10	2.47	2.416	.247	.242	—	.054	2.19
Masons' helpers	1		10		1.68		.168				
Mill men		1		10		1.83		.183			
Oilers	7	6	10	10	1.728	1.835	.173	.184	+	.107	6.19
Packers	1	5	10	10	2.00	1.358	.200	.136	—	.643	32.10
Painters	4	5	10	10	1.006	1.55	.161	.155	—	.045	2.80
Piece workers, female	141	165	9	10	.811	.829	.09	.083	+	.018	2.22
Plumbers		1		10		4.00		.400			
Pressers, female	6	7	9	10	1.00	1.00	.111	.10			
Scourers	1	1	10	10	1.85	1.75	.185	.175	—	.10	5.40
Setters	44	53	10	10	1.83	1.627	.183	.163	—	.203	1.11
Shavers	15	23	9.60	9.70	2.984	2.943	.306	.294	—	.080	2.93
Shippers	6	1	10	10	1.667	2.13	.167	.213	+	.533	35.93
Shipping clerks	1	1	10	10	2.00	2.30	.200	.230	+	.30	15.
Sorters	13	13	9.83	10	2.237	2.218	.223	.222	—	.019	.85
Sorters, female		1		10		1.83		.183			
Sorters' helpers	1		9		.75		.068				
Splitters	3	3	9.33	9.67	3.173	3.116	.34	.322	—	.057	1.80
Stakers	3	3	10	10	1.39	1.33	.139	.133	+	.44	31.05
Steam fitters	7	9	10	10	2.065	1.961	.204	.196	—	.054	2.65
Steam fitters' helpers	3		10		1.50		.150				
Stuffers	1	1	10	10	2.06	2.06	.206	.206	+	.02	.97
Tanners	506	807	10	10	1.725	1.633	.173	.163	—	.092	5.33
Teamsters	33	53	10	10	1.797	1.652	.177	.165	—	.115	6.50
Veneers, female	13		9		.853		.095				
Watchmen	20	22	11.05	10.77	1.708	1.66	.155	.154	—	.048	2.87
Whiteners	21	24	9.86	9.38	2.149	2.195	.218	.222	+	.046	2.14
Yardmen	15	5	10	10	1.60	1.708	.160	.176	+	.166	10.50
Total and av.	4,008	4,824	10.01	10.39	\$1.637	\$1.647	\$.162	\$.161	+	\$.0	

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.49 to \$.49.			13	6	13	6			\$.45	\$.445	\$.45	\$.445
.50 to .58.	15	13	23	37	38	50	.548	.549	.551	.459	.55	.549
.59 to .66.	2	2	12	13	14	15	.60	.60	.663	.631	.646	.627
.67 to .74.	11	4	7	44	18	48	.678	.685	.67	.677	.675	.679
.75 to .88.	44	50	51	54	95	104	.793	.781	.777	.791	.784	.790
.89 to .91.	2	10	31	53	33	63	.875	.865	.869	.871	.87	.87
.92 to .99.	9	13	31	40	40	52	.93	.925	.955	.934	.95	.937
1.00 to 1.08.	89	82	68	125	151	209	1.007	1.028	1.01	1.007	1.009	1.003
1.09 to 1.16.	25	14		2	25	16	1.133	1.131		1.10	1.133	1.127
1.17 to 1.24.	25	35	1		26	35	1.186	1.179	1.17		1.18	1.179
1.25 to 1.33.	227	255	44	3	271	258	1.290	1.283	1.25	1.303	1.283	1.283
1.34 to 1.41.	129	100			129	100	1.372	1.372			1.372	1.372
1.42 to 1.49.	244	176		1	244	177	1.442	1.435		1.42	1.442	1.435
1.50 to 1.58.	1,017	1,299	11		1,028	1,299	1.502	1.52	1.50		1.518	1.52
1.59 to 1.66.	145	205			145	205	1.614	1.62			1.614	1.62
1.67 to 1.74.	278	251	1	1	279	252	1.671	1.671	1.67	1.67	1.671	1.671
1.75 to 1.83.	510	630			510	630	1.709	1.709			1.709	1.709
1.84 to 1.91.	23	67			23	67	1.806	1.865			1.806	1.865
1.92 to 1.99.	259	155			259	155	1.920	1.920			1.920	1.920
2.00 to 2.08.	358	464			358	464	2.001	2.004			2.001	2.004
2.09 to 2.16.	5	17			5	17	2.11	2.123			2.11	2.123
2.17 to 2.24.	83	69			83	69	2.175	2.179			2.175	2.179
2.25 to 2.33.	85	203			85	203	2.268	2.284			2.268	2.284
2.34 to 2.41.		11				11		2.397				2.397
2.42 to 2.49.	19	2			19	2	2.421	2.43			2.421	2.43
2.50 to 2.58.	105	77			105	77	2.510	2.501			2.510	2.501
2.59 to 2.66.	3	18			3	18	2.633	2.611			2.633	2.611
2.67 to 2.74.	15	6			15	6	2.67	2.674			2.67	2.674
2.75 to 2.83.	18	81			18	31	2.772	2.753			2.772	2.753
2.84 to 2.91.	1	3			1	3	2.91	2.90			2.91	2.90
3.00 to 3.08.	30	102			30	102	3.003	3.00			3.003	3.00
3.17 to 3.24.	4	1			4	1	3.17	3.17			3.17	3.17
3.25 to 3.33.	6	1			6	1	3.293	3.27			3.293	3.27
3.50 to 3.58.	6	3			6	3	3.50	3.50			3.50	3.50
3.84 to 3.91.	2	3			2	3	3.85	3.85			3.85	3.85
4.00 to 4.08.	1	6			1	5	4.00	4.00			4.00	4.00
4.50 to 4.58.		1				1		4.50				4.50
5.00 to 5.08.	1				1		5.00				5.00	
Total and av.	3,781	4,445	287	379	4,068	4,824	\$1.08	\$1.715	\$.92	\$.85	\$1.627	\$1.647

Remarks.—This industry, one of the most important in the state, and one in which Wisconsin ranked third among all the states in 1900, made a very substantial advance in the two years 1904 and 1905. In the latter year there was an increase of 14 per cent in the capital invested, of 18 per cent. in the average number of persons employed, of 41 per cent. in the raw material used, of 16 per cent. in the total wages paid, and of 33 per cent. in the output. Employment was very regular each year, there being in general a steady increase in the number of employees. About 7 per cent. of the employees in 1904 were women, and

about 8 per cent. in 1905. They were employed, with but few exceptions, in occupations peculiar to the industry. Their average daily wages were considerably lower in 1905 than in the preceding year. Their hours of labor on the contrary were somewhat longer, although still slightly less than 10 per day.

31. LIME AND CEMENT—19 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	2	2		
Number of male partners	3	3		
Number of female partners				
Total number of partners	3	3		
Total number of corporations	17	17		
Number of male stockholders	119	127	+ 8	6.72
Number of female stockholders	64	63	— 1	1.56
Total number of stockholders	183	190	+ 7	3.83
Total number of partners and stockholders	186	193	+ 7	3.76
Smallest number of persons employed	200	303	+ 13	4.43
Greatest number of persons employed	691	648	— 43	6.23
Average number of persons employed	543	586	+ 15	2.76
Average days in operation	297	314	+ 17	5.72

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$663,200 51	\$742,570 82	+ \$79,370 31	11.97
Buildings and fixtures	397,594 32	473,112 96	+ 75,518 64	18.99
Machinery, etc.,	209,918 08	225,333 14	+ 15,414 06	7.34
Cash and other capital	306,677 97	297,797 75	— 48,910 22	15.30
Total	\$1,577,390 88	\$1,668,783 67	+ \$121,392 79	7.70

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$301,994 23	\$339,529 53	+ \$37,535 35	12.43
Other material used	33,231 42	35,907 08	+ 2,675 61	8.05
Wages	246,855 97	243,187 54	+ 1,251 87	0.50
Salaries	36,897 92	36,325 98	— 572 40	1.55
Profit and minor expenses....	108,856 00	108,098 29	— 5,257 18	4.85
Goods made and work done..	\$727,435 54	\$768,049 19	+ \$35,613 65	4.89

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross production)	\$727,435 54	\$768,049 19
Value of stock used and material consumed in production	\$35,325 65	\$75,436 61
Industry product (gross production less value of stock and material)	\$69,909 89	\$397,612 58
Wages and salaries (Labor's direct share of product)	233,853 89	\$394,513 76
Profit and minor expense fund (Industry product less wages)	108,356 00	108,098 29
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	73.35	73.43
Percentage of industry product devoted to profit and minor expenses	27.64	26.57

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$5,904 96	\$3,217 39	+ \$312 43	10.75
Average product per employee.....	1,539 06	1,445 17	+ 105 51	7.88
Average yearly earnings	454 80	470 05	+ 15 25	3.35

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	302	308	43.70	46.76	56.30	53.24
February	290	321	41.97	49.54	58.03	50.46
March	373	493	63.99	76.08	46.02	23.92
April	580	597	81.04	92.13	18.96	7.87
May	656	648	94.93	100.—	5.07	0.00
June	672	638	97.37	98.46	2.63	1.54
July	691	633	100.—	97.53	0.00	2.47
August	685	626	99.13	96.45	0.87	3.55
September	697	640	96.53	98.77	3.47	1.23
October	652	626	94.35	96.60	5.65	3.40
November	595	441	86.10	68.05	13.90	31.95
December	371	371	58.09	67.25	41.91	48.75
Average	543	528	78.58	81.48	21.42	18.52

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Blacksmiths	5	2	10	10	\$1.73	\$1.025	\$.173	\$.163	— \$.105	6.07
Brickmakers	29	10	10	10	1.368	.....	.137	.....	.....	.....
Burners	37	31	10.49	10.65	1.804	1.808	.172	.170	+ .004	.22
Carpenters	2	1	10	10	1.75	1.50	.175	.15	— .25	14.28
Coopers	2	2	10	10	1.875	2.00	.188	.20	+ .125	6.66
Crushers	1	10	.....	.....	1.90	.....	.19	.....	.....	.....
Drillers	15	10	.....	.....	1.767	.....	.177	.....	.....	.....
Engineers	9	6	10	10	2.111	1.975	.211	.198	— .136	6.44
Firemen	87	7	10.76	11.71	1.654	1.736	.154	.148	+ .032	4.96
Foremen	5	7	10.40	10	1.93	1.893	.186	.188	— .047	3.43
Girls	2	2	10	10	.50	.50	.05	.05	.....	.....
Helpers	3	2	10	9	1.00	1.50	.10	.167	+ .50	50
Holsters	1	10	.....	.....	1.90	.....	.19	.....	.....	.....
Laborers	200	440	10	10	1.514	1.73	.151	.173	+ .216	14.26
Machine operators...	1	1	10	10	2.00	1.75	.20	.175	— .25	12.5
Masons	2	8	10	10	3.00	3.375	.30	.338	+ .375	12.5
Messengers .....	.....	7	.....	10	.....	1.00	.....	.10	.....	.....
Millers	2	2	10	10	1.925	1.925	.193	.193	.....	.....
Miners	1	10	.....	.....	2.50	.....	.25	.....	.....	.....
Mixers .....	.....	1	.....	10	.....	2.50	.....	.25	.....	.....
Office girls	1	1	10	10	.75	.75	.075	.075	.....	.....
Quarrymen	244	109	10	9.93	1.499	1.639	.15	.155	+ .039	2.60
Stonecutters	4	.....	10	.....	1.60	.....	.16	.....	.....	.....
Teamsters	45	21	10	10	1.685	1.896	.169	.183	+ .141	8.37
Watchmen	1	1	13	13	1.83	1.83	.111	.110	.....	.....
Weighers .....	.....	2	.....	10	.....	1.75	.....	.175	.....	.....
Total and average..	649	658	10.12	10.00	\$1.568	\$1.717	\$.155	\$.171	+ \$.149	9.50

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58.	12	5	2	2	14	7	\$.50	\$.50	\$.50	\$.50	\$.50	\$.50
.75 to .88.			1	1	1	1			.75	.75	.75	.75
1.00 to 1.08.	3	8			3	8	1.00	1.00			1.00	1.00
1.09 to 1.16.	10	6			10	6	1.13	1.142			1.13	1.143
1.17 to 1.24.	3	2			3	2	1.20	1.20			1.20	1.20
1.25 to 1.33.	15	2			15	2	1.273	1.33			1.273	1.33
1.34 to 1.41.	11	7			11	7	1.392	1.379			1.392	1.379
1.50 to 1.58.	317	158			317	158	1.50	1.50			1.50	1.50
1.59 to 1.66.	198	78			198	78	1.634	1.63			1.634	1.62
1.67 to 1.74.	6	26			6	26	1.697	1.70			1.697	1.70
1.75 to 1.83.	68	231			68	231	1.756	1.75			1.756	1.75
1.84 to 1.91.	35	21			35	21	1.857	1.852			1.857	1.852
1.92 to 1.99.		4				4		1.92				1.92
2.00 to 2.08.	14	51			14	51	2.00	2.00			2.00	2.00
2.09 to 2.16.		1				1		2.10				2.10
2.25 to 2.33.	1	29			1	29	2.25	2.25			2.25	2.25
2.34 to 2.41.	1	1			1	1	2.35	2.35			2.35	2.35
2.50 to 2.58.	8	12			8	12	2.50	2.50			2.50	2.50
3.00 to 3.08.	2	2			2	2	3.00	3.00			3.00	3.00
3.50 to 3.58.	1	6			1	6	3.50	3.50			3.50	3.50
Total and average	696	650	3	3	699	653	\$1.573	\$1.727	\$.583	\$.583	\$1.593	\$1.717

Remarks.—Although 3 per cent. fewer persons were employed in 1905 than in 1904, this industry shows a considerable gain for the later year. There was an increase of 12 per cent. in the capital invested in land, of 19 per cent in that invested in buildings, and of 7 per cent. in the sum invested in machinery,—an indication of the more permanent establishment of the industry. There was also an increase of 11 per cent. in the material used, and of 5 per cent. in the output. Labor's share of the industry product was large each year—72 per cent. in 1904 and 73 per cent. in 1905. The average yearly earnings of employees were 3 per cent. greater in the latter year. Employment was very irregular, especially in 1904, when in February a maximum of 58 per cent. of unemployment was reached. This was due to the nature of the industry, which can be carried on only at a disadvantage during the winter months. Only three women were employed in this industry. These worked in minor employments, chiefly as office help. Their hours of labor were uniformly 10 per day; their wages were considerably lower than the average for female employees in all industries.

32. LUMBER—69 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms.....	19	19	—	—
Number of male partners.....	26	24	— 2	7.69
Number of female partners.....	1	1	—	—
Total number of partners.....	27	25	— 2	7.41
Number of corporations.....	50	50	—	—
Number of male stockholders.....	350	303	+ 13	3.71
Number of female stockholders.....	78	91	+ 13	16.67
Total number of stockholders.....	428	454	+ 26	6.07
Total number of partners and stockholders.....	455	479	+ 24	5.27
Smallest number of persons employed.....	7,931	8,204	+ 273	3.44
Greatest number of persons employed.....	10,526	10,230	— 297	2.82
Average number of persons employed.....	9,899	9,436	+ 57	0.59
Average days in operation.....	340	303	— 37	10.58

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Per cent
Land	\$6,129,155 94	\$6,140,549 52	+ \$11,393 58	0.19
Buildings and fixtures.....	1,902,697 42	1,916,902 55	+ 14,205 13	0.75
Machinery, etc.	2,108,408 57	2,194,247 58	+ 85,839 01	4.07
Cash and other capital	11,173,586 27	11,434,342 31	+ 260 757 04	2.33
Total	\$21,313,817 20	\$21,686,041 96	+ 372,224 76	1.75

TABLE IIIA—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$9,537,957 73	\$9,901,705 37	+ \$363,747 64	3.81
Other material used	522,272 06	677,115 73	+ 154,843 67	29.65
Wages	4,978 331 21	4,632,184 44	— 346,196 77	6.96
Salaries	613,129 60	625,749 78	+ 12,617 18	2.06
Profit and minor expenses.....	4,313,497 77	4,143,788 78	— 169,710 99	3.93
Goods made and work done..	\$19,935,188 37	\$19,968,489 05	+ \$15,300 68	0.08

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$19,985,188 87	\$19,980,489 05
Value of stock used and material consumed in production	10,080,229 79	10,578,821 10
Industry product (gross production less value of stock and material)	9,904,958 58	9,401,667 95
Wages and salaries (Labor's direct share of product)	5,591,460 81	5,277,881 17
Profit and minor expense fund (Industry product less wages)	4,313,497 77	4,123,786 78
Percentage of industry product paid in wages	Per cent. 56.55	Per cent. 55.98
Percentage of industry product devoted to profit and minor expenses	43.45	44.07

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,267 07	\$2,298 22	+ \$30 55	1.35
Average product per employee	2,124 18	2,117 47	— 6 71	0.32
Average yearly earnings	529 67	490 90	— 38 77	7.32

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	8,603	8,821	82.30	86.23	17.70	13.77
February	8,514	8,729	80.88	85.33	19.12	14.67
March	8,168	8,801	77.60	86.04	22.40	13.96
April	7,931	8,735	75.35	85.39	24.65	14.61
May	9,626	9,905	91.45	96.83	8.55	3.17
June	10,526	9,898	100.—	96.74	0.00	3.26
July	10,030	9,979	95.29	97.56	4.71	2.44
August	10,139	10,114	98.32	98.87	1.68	1.13
September	10,172	9,946	96.68	97.23	3.37	2.77
October	10,462	10,220	99.39	100.—	0.61	0.00
November	10,058	9,856	95.55	96.34	4.45	3.66
December	8,496	8,204	80.71	80.30	19.29	19.80
Average	9,399	9,436	89.29	92.25	10.71	7.75

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per cent in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Barnmen	8	15	10.50	10.53	\$1.739	\$1.843	\$.166	\$.175	+	5.98
Blacksmiths	30	49	10.43	10.30	2.409	2.450	.231	.240	+	1.83
Blacksmiths' helpers	6	3	10.73	10.00	1.073	2.000	.156	.200	+	19.56
Bolters	19	26	10.00	10.00	2.053	1.988	.206	.199	—	3.16
Bookkeepers, female	1	1	10.00	10.00	1.500	1.500	.150	.150	—	—
Boommnen	83	60	10.00	10.00	1.910	1.787	.192	.177	—	7.82
Boys	72	138	10.08	10.00	.978	1.06	.098	.106	+	8.41
Brakemen	5	11	10.00	10.18	1.906	1.955	.200	.192	—	2.06
Bundlers	5	7	10.00	10.00	1.609	1.683	.161	.168	+	4.79
Cabinet makers	12	12	10.00	10.00	2.01	2.01	.201	.201	—	—
Car builders	9	3	10.00	10.00	2.167	2.063	.217	.208	—	3.88
Carpenters	86	75	9.85	9.23	2.228	2.358	.231	.265	+	5.83
Chain men	40	53	10.00	10.00	1.719	1.676	.172	.168	—	2.50
Clearers	23	6	10.00	10.00	1.750	1.80	.175	.180	+	2.86
Clerks, female	4	1	10.00	10.00	1.173	1.60	.117	.160	+	36.40
Clippers	5	7	10.00	10.00	1.95	1.607	.185	.161	—	13.14
Conductors	2	10.00	10.00	10.00	2.75	2.75	.275	.275	—	—
Conveyors	4	4	10.00	10.00	1.568	1.568	.156	.156	—	—
Cooks	51	44	10.71	10.89	2.904	2.191	.271	.208	—	24.55
Cooks, female	1	2	12.00	11.00	1.730	1.415	.144	.139	—	18.21
Deck men	8	46	10.00	10.02	1.893	1.892	.186	.185	—	.59
Edge men	110	124	10.08	10.06	2.423	2.378	.241	.238	—	1.94
Edge men's helpers	6	6	10.00	10.00	1.70	1.55	.170	.155	—	8.87
Edge catchers	15	8	10.00	10.00	1.616	1.500	.162	.150	—	7.18
Edge lifters	5	4	10.00	10.00	1.250	1.250	.125	.125	—	—
Electricians	4	6	10.50	10.00	2.380	2.278	.227	.228	—	4.28
Engineers	94	111	10.07	10.10	2.402	2.433	.244	.246	+	.86
Estimators	1	1	10.00	10.00	2.000	2.000	.200	.200	—	—
Filers	106	107	10.02	10.08	4.505	4.464	.450	.443	—	.61
Filers' helpers	10	20	10.00	10.00	2.250	2.355	.225	.236	+	4.67
Firemen	66	66	10.32	10.18	1.874	1.881	.187	.188	+	.37
Foreman	145	160	10.08	10.08	2.925	3.080	.290	.301	+	3.50
Graders	168	216	10.00	10.03	2.149	2.137	.215	.213	—	.51
Harness makers	2	3	10.00	10.00	2.250	1.790	.225	.179	—	20.44
Helpers	213	402	10.13	10.00	1.179	1.413	.116	.141	+	19.85
Helpers, female	1	1	10.00	10.00	.500	.500	.050	.050	—	—
Hotel keepers	9	9	10.00	10.00	.900	.900	.090	.090	—	—
Hotel keepers, female	2	2	10.00	10.00	.925	.925	.093	.093	—	—
Housekeepers, female	1	1	10.00	10.00	.500	.500	.050	.050	—	—
Inspectors	7	4	10.00	10.00	1.830	1.900	.183	.190	+	3.83
Laborers	5,374	5,487	10.04	10.07	1.598	1.698	.159	.162	+	1.88
Laborers, female	110	110	10.00	10.00	.789	.789	.079	.079	—	—
Lath men	12	27	10.00	10.00	1.958	2.067	.196	.207	+	5.56
Lath feeders	16	1	10.00	10.00	1.800	1.650	.180	.165	—	8.33
Lath pullers	12	13	10.00	10.00	1.800	1.846	.180	.185	+	2.56
Lath tier men	7	1	10.00	10.00	1.671	1.750	.167	.175	+	4.73
Laundrymen	2	2	10.00	10.00	.350	.350	.035	.035	—	—
Laundry women	1	1	10.00	10.00	.350	.350	.035	.035	—	—
Linenmen	1	1	10.00	10.00	.212	.212	.021	.021	—	—
Loaders	195	166	10.00	10.00	1.784	1.823	.178	.183	+	2.19
Log men	6	10	10.00	10.00	2.250	1.825	.225	.183	—	18.80
Lumber catchers	12	16	10.00	10.00	1.902	1.684	.190	.168	—	6.51
Lumber handlers	13	97	10.00	10.00	1.200	1.681	.120	.169	+	40.92
Lumber jacks	8	9	10.00	10.00	1.550	1.683	.155	.167	+	3.97
Lumber markers	2	2	10.00	10.00	2.250	2.250	.225	.225	—	—
Machine tenders	352	275	10.01	10.02	1.769	1.841	.177	.184	+	4.07
Machinists	67	45	10.01	10.02	2.642	2.973	.264	.287	+	8.74
Machinists' apprentices	1	1	10.00	10.00	.750	.750	.075	.075	—	—
Machinists' helpers	4	4	10.00	10.00	2.013	2.013	.201	.201	—	—
Mill hands	493	305	10.00	10.00	1.738	1.913	.179	.191	+	6.99
Millwright	64	51	10.08	10.08	2.598	2.733	.259	.264	—	6.15
Molders	2	2	10.00	10.00	1.875	1.875	.188	.188	—	—

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.—Continued.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, — per day in 1905.	
	1904.	1905.	1904	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Nailers	4		10.00		1.688		.169			
Oilers	17	13	10.00	10.00	1.798	1.967	.177	.197	+	.201
Packers	28	22	10.00	10.00	1.902	2.174	.190	.217	+	.212
Packers, female		3		10.00		1.100		.110		
Painters	1		10.00		2.500		.250			
Pile-bottom builders	1	3	10.00	10.00	1.500	1.500	.150	.150		
Pilers	353	282	10.00	10.04	2.014	1.954	.201	.195	—	.030
Planers	42	20	10.00	10.00	2.062	1.859	.206	.185	—	.208
Pond men	3	3	10.00	10.00	2.250	2.250	.225	.225		
Riders	68	61	10.01	10.05	2.096	1.968	.209	.196	—	.130
Rivermen	51	40	10.00	10.00	1.961	1.968	.196	.196	+	.005
Salesmen	1	3	10.00	10.00	2.410	2.240	.241	.224	—	.170
Sanders	8	8	10.00	10.00	1.450	1.450	.145	.145		
Sawyers	266	380	10.01	10.06	3.233	2.891	.323	.287	—	.352
Sawyers, female	5	2	10.00	10.00	1.452	1.315	.145	.132	—	.137
Scalers	52	29	10.09	10.17	2.117	1.919	.210	.189	—	.198
Setters	79	114	10.04	10.06	2.493	2.403	.247	.239	—	.080
Shinglemen	6	4	10.00	10.00	2.267	2.150	.227	.215	—	.117
Shipping clerks	6	6	10.00	10.00	2.768	2.062	.277	.206	+	.294
Slashers	11	8	10.09	10.13	1.698	1.588	.167	.157	—	.068
Sildermen	2	2	10.00	10.50	2.000	1.750	.200	.167	—	.250
Sorters	69	83	10.00	10.09	1.850	1.795	.185	.178	—	.055
Sparemen	3	4	10.00	10.00	2.083	2.000	.208	.200	—	.083
Stenographers, female		2		9.00		1.625		.181		
Strikers	4		10.00		1.500		.150			
Strippers		4		10.00		1.850		.185		
Tallymen	37	13	10.00	10.00	1.978	2.144	.198	.214	+	.168
Teamsters	411	451	10.16	10.16	1.679	1.714	.165	.169	+	.035
Timekeepers	1	2	10.00	10.00	2.620	2.310	.262	.231	—	.310
Tinsmiths		1		10.00		2.000		.200		
Trainmen	6		10.00		2.000		.200			
Tram car men	12		10.00		1.500		.150			
Transfer men	33	27	10.00	10.00	1.824	1.761	.182	.176	—	.033
Trimmer lifters	6	4	10.00	10.00	1.700	1.700	.170	.170		
Trimmers	79	90	10.00	10.02	1.964	1.916	.196	.191	—	.048
Truck men		26		10.00		1.673		.167		
Veneers	40	40	10.00	10.00	2.000	2.000	.200	.200		
Wagon makers		1		10.00		2.250		.225		
Walters		2		10.00		1.000		.100		
Walters, female		3		10.00		.700		.070		
Watchmen	52	154	10.85	10.19	1.675	1.500	.153	.147	—	.165
Wipers	3	2	11.33	12.00	1.947	2.020	.172	.168	+	.073
Woodmen	1,518	588	10.15	10.37	1.507	1.628	.149	.157	+	.121
Yardmen	61	376	10.00	10.27	1.445	1.630	.145	.162	+	.215
Total	11,498	11,307	10.08	10.08	\$1.761	\$1.796	\$.175	\$.178	+	\$.036

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904	1905	1904	1905.	1904	1905.	1904.	1905.	1904	1905	1904.	1905.
\$.50 to .56.	8	11	1	3	4	13	\$.50	\$.50	\$.50	\$.50	\$.50	\$.50
.56 to .66.	25	8	8	8	33	10	.60	.60	.65	.65	.60	.61
.67 to .74.	7	6	1	4	8	10	.66	.66	.70	.70	.66	.66
.75 to .83.	61	63	73	73	134	136	.763	.764	.751	.751	.757	.757
.84 to .91.	47	50	14	15	61	65	.874	.872	.854	.858	.870	.868
.92 to .99.	9	7			9	7	.947	.950			.847	.900
1.00 to 1.06.	181	108	15	14	146	122	1.008	1.002	1.00	1.00	1.085	1.066
1.09 to 1.16.	117	73	1	4	118	89	1.124	1.131	1.15	1.10	1.124	1.120
1.17 to 1.24.	22	6			22	6	1.301	1.30			1.301	1.30
1.25 to 1.33.	606	320	1	2	606	322	1.259	1.251	1.26	1.25	1.390	1.251
1.34 to 1.41.	308	308	2	3	308	306	1.301	1.300	1.38	1.38	1.301	1.38
1.42 to 1.49.	11	15			11	15	1.448	1.449			1.448	1.449
1.50 to 1.56.	2,755	2,274	4	3	2,759	2,276	1.502	1.501	1.51	1.50	1.502	1.501
1.59 to 1.66.	1,525	1,795	1	1	1,526	1,796	1.629	1.629		1.60	1.629	1.629
1.67 to 1.74.	1,095	608	1	1	1,096	609	1.705	1.718	1.73	1.73	1.709	1.718
1.75 to 1.83.	1,791	2,737		1	1,791	2,738	1.757	1.738		1.75	1.757	1.738
1.84 to 1.91.	544	655			544	655	1.865	1.869			1.905	1.890
1.92 to 1.99.	52	31			52	31	1.945	1.938			1.945	1.938
2.00 to 2.06.	901	764			901	764	2.000	2.002			2.000	2.002
2.09 to 2.16.	77	82			77	82	2.123	2.136			2.123	2.136
2.17 to 2.24.	16	22			16	22	2.200	2.217			2.300	2.317
2.25 to 2.33.	350	308			350	308	2.252	2.254			2.252	2.254
2.34 to 2.41.	33	29			33	29	2.376	2.376			2.376	2.376
2.42 to 2.49.		1				1	2.45					2.45
2.50 to 2.56.	344	348			344	348	2.50	2.50			2.50	2.50
2.59 to 2.66.	31	26			31	26	2.622	2.627			2.622	2.627
2.67 to 2.74.	12	20			12	20	2.666	2.667			2.663	2.667
2.75 to 2.83.	87	131			87	131	2.751	2.738			2.751	2.755
2.84 to 2.91.	5	6			5	6	2.892	2.893			2.892	2.893
2.92 to 2.99.	1	1			1	1	2.94	2.94			2.94	2.94
3.00 to 3.06.	157	108			157	108	3.006	3.001			3.006	3.001
3.09 to 3.16.	2	2			2	2	3.15	3.15			3.15	3.15
3.17 to 3.24.	8	5			8	5	3.201	3.194			3.201	3.194
3.25 to 3.33.	35	20			35	20	3.26					

Remarks.—According to the United States census of 1900, Wisconsin in that year ranked first in this industry among all the states of the Union. There can be no doubt however that the industry as carried on within this state has already attained its maximum, and that henceforth it must decrease in importance as our pine forests become gradually exhausted. For the two years covered by this report the industry apparently shows a gain in some respects and a loss in others. But it should be stated that returns were received from only 69 establishments, less than 7 per cent. of the total number of firms, 1,066, reported by the census of 1900. The data contained in the foregoing tables are therefore not necessarily an index of the actual changes occurring in the industry in the period considered. For the establishments reporting, however, there was an increase in 1905 of 2 per cent. in the capital invested, all items of investment showing a slight gain; an increase of 5 per cent. in the materials used, and a slight increase in the average number of persons employed and in the value of the output. On the other hand, the number of days of operation decreased by 11 per cent., the total wages and salaries paid, by 6 per cent., and the average yearly earnings, by 7 per cent. Employment was very irregular each year, although less so than would be expected in an industry in which the occupations are so diversified, and in which the nature of the work done varies so widely in the different seasons of the year. But 1 per cent. of the total number of employees were females. The majority of these were employed in a subsidiary capacity, and not in occupations peculiar to the industry. They averaged ten hours of work per day.

33. MACHINERY—75 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	35	31	— 4	11.43
Number of male partners	53	59	+ 6	10.34
Number of female partners	2	2	—	—
Total number of partners	60	54	— 6	10.00
Number of corporations	40	44	+ 4	10. —
Number of male stockholders	297	206	— 91	30.64
Number of female stockholders	33	41	+ 8	24.24
Total number of stockholders	330	247	— 83	5.15
Total number of partners and stockholders	390	301	— 89	22.83
Smallest number of persons employed	5,095	6,037	+ 1,542	30.27
Greatest number of persons employed	6,147	7,650	+ 1,513	24.60
Average number of persons employed	5,689	6,960	+ 1,271	22.34
Average days in operation	295	310	+ 15	5.08

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$959,496 19	\$716,060 51	+ \$256,594 32	8.58
Buildings and fixtures	2,047,890 79	2,363,610 36	+ 335,749 57	16.39
Machinery, etc.	2,731,635 57	4,180,134 51	+ 454,498 94	12.18
Cash and other capital	6,711,507 29	7,324,567 72	+ 613,060 43	9.13
Total	\$13,150,499 84	\$14,610,418 10	+ \$1,459,918 26	11.10

TABLE III A—VALUE OF MATERIAL, AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Raw material used	\$5,431,465 95	\$6,293,370 70	+ \$861,804 75	15.87
Other material used	644,930 96	670,424 11	+ 25,494 15	3.95
Wages	3,393,442 24	4,218,300 08	+ 894,857 79	24.31
Salaries	700,439 28	848,310 50	+ 147,871 24	21.11
Profit and minor expenses	2,549,965 74	3,238,263 50	+ 688,297 76	26.99
Goods made and work done	12,720,253 15	15,268,568 84	+ 2,548,315 69	20.08

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904	1905.
Value of goods made and work done (gross product)	\$12,720,258 15	\$15,208,508 84
Value of stock used and material consumed in production	6,076,405 91	6,963,604 81
Industry product (gross production less value of stock and material)	6,643,847 24	8,304,874 03
Wages and salaries (Labor's direct share of product)	4,068,861 50	5,066,610 53
Profit and minor expense fund (industry product less wages)	2,549,965 74	3,238,263 50
Percentage of industry product paid in wages	Per cent. 61.78	Per cent. 61.01
Percentage of industry product devoted to profit and minor expenses	38.22	38.90

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,995 82	\$2,009 20	+ \$103 38	5.18
Average product per employee	1,930 58	2,193 76	+ 263 23	13.64
Average yearly earnings	506 49	606 09	+ 9 59	1.61

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	5,095	6,687	82.89	86.66	17.11	13.34
February	5,563	6,644	90.50	89.75	9.50	10.25
March	5,767	6,970	93.82	91.00	6.18	9.00
April	5,911	7,049	96.16	92.04	3.84	7.96
May	6,147	6,873	100.—	89.74	—	10.26
June	6,073	6,666	98.90	87.41	1.20	12.59
July	5,745	6,763	98.46	88.30	6.54	11.70
August	5,606	6,738	91.30	88.63	8.80	11.37
September	5,398	6,850	87.65	89.44	12.35	10.56
October	5,393	7,233	87.73	94.44	12.27	5.56
November	5,764	7,669	93.61	100.—	6.39	—
December	5,821	7,355	94.70	96.03	5.30	3.97
Average	5,689	6,960	92.55	90.85	7.45	9.15

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1901	1905	1904	1905	1904.	1905.	1901.	1905.	Amt.	Per ct.	
Apprentices	433	262	9.85	10.07	\$1.094	\$.877	\$.111	\$.087	— \$.217	19.85	
Assemblers	15	25	13.00	10.00	1.917	1.88	.192	.188	— .037	1.91	
Assemblers, female		5		9.00		.94		.104			
Bench hands	8	31	10.00	10.00	1.813	2.481	.181	.248	+	.332	18.31
Blacksmiths	71	78	9.97	10.03	2.813	2.886	.282	.282	+	.073	0.46
Boat makers	6	1	10.00	10.00	2.308	2.00	.231	.20	—	.304	9.42
Boiler makers	29	21	10.00	10.00	3.04	3.05	.304	.305	+	.01	0.33
Brasiers	13	63	10.00	10.00	2.50	1.997	.250	.19	—	.703	21.12
Carpenters	137	137	9.93	9.97	2.203	2.233	.222	.224	+	.03	1.56
Chemists	1	1	10.00	10.00	1.86	2.25	.183	.225	+	.39	20.57
Chippers		113		10.00		1.715		.172			
Core makers	144	135	10.00	9.90	2.281	2.312	.228	.231	+	.031	1.36
Core makers, female.	15	32	10.00	10.00	.793	.843	.079	.084	+	.05	6.31
Crane men	17	34	10.00	10.00	2.012	2.067	.201	.207	+	.065	2.73
Cupola tenders	11	10	10.00	10.00	2.041	2.003	.204	.201	—	.036	1.75
Draftsmen	60	81	8.83	8.78	2.991	2.58	.339	.264	—	.411	13.74
Dressers	3	3	10.00	10.00	2.917	3.067	.292	.307	+	.15	5.11
Drillers	47	9	10.00	10.00	1.500	1.222	.151	.122	—	.278	19.61
Electricians	21	26	10.00	10.12	2.481	2.075	.248	.205	—	.406	16.73
Engineers	22	22	10.55	10.45	2.41	2.258	.228	.216	—	.152	6.31
Erectors	6	4	10.00	10.00	2.588	3.00	.258	.30	+	.417	16.14
Firemen	9	16	11.11	10.75	2.077	2.011	.187	.187	—	.063	3.18
Foremen	82	83	9.91	9.98	3.532	3.726	.353	.373	+	.194	5.49
Furnace tenders	2	9	10.00	10.00	2.025	2.391	.203	.239	+	.234	8.91
Galvanizers	8	8	10.00	10.00	1.80	2.373	.18	.237	+	.573	31.83
Grinders	4	4	10.00	10.00	1.594	1.66	.159	.166	+	.006	4.11
Heaters	4		10.00		2.438		.244				
Helpers	1,422	1,425	9.94	9.99	1.562	1.686	.159	.163	+	.014	2.71
Iron workers	16	21	10.00	10.00	2.446	1.907	.249	.191	—	.561	23.31
Laborers	428	601	9.95	10.02	1.646	1.727	.165	.172	+	.061	4.92
Lathe hands	22	22	10.00	10.00	1.807	1.961	.181	.196	+	.154	8.52
Liners	3	2	10.00	9.00	1.65	3.00	.165	.303	+	1.35	81.22
Machine operators	333	350	10.00	9.99	1.781	1.959	.178	.186	+	.078	4.38
Machinists	1,779	1,500	9.91	10.02	2.462	2.561	.245	.256	+	.099	4.02
Machinists' helpers	81	442	9.91	10.00	1.728	1.582	.174	.158	—	.146	8.45
Masons	4	1	9.75	10.00	3.75	3.00	.385	.30	—	.75	20.00
Millwrights	46	65	9.74	10.00	3.083	2.931	.314	.293	—	.132	4.31
Molders	458	406	9.95	9.92	2.811	2.876	.281	.288	+	.045	1.61
Molders' helpers	33	11	10.00	9.94	1.60	1.55	.16	.156	—	.045	2.81
Oilers	2		10.00		1.776		.178				
Packers	1		10.00		1.50		.15				
Packers, female	5	6	10.00	10.00	.782	.785	.073	.074	—	.047	6.04
Painters	44	68	10.00	10.00	2.065	2.003	.206	.20	—	.052	2.51
Pattern makers	190	151	9.78	10.00	2.900	3.081	.298	.302	+	.112	3.85
Pattern makers' help- ers	9	6	10.00	10.00	1.50	1.50	.15	.15			
Picklers	1	1	10.00	10.00	1.75	1.75	.175	.175			
Platers	1	1	10.00	10.00	2.25	2.42	.225	.242	+	.17	7.56
Polishers	96	122	10.00	10.00	2.032	2.054	.203	.205	+	.022	1.09
Press hands	18	18	10.00	10.00	1.722	1.722	.172	.172			
Repairers	3	2	10.00	10.00	1.867	2.00	.187	.20	+	.133	7.12
Seamstresses	3	4	9.00	9.00	.867	.953	.086	.106	+	.086	9.92
Shipping clerks	77	78	9.44	9.12	1.394	2.071	.201	.227	+	.17	9.35
Steam fitters	39	17	10.00	10.00	2.012	2.166	.201	.217	+	.156	7.75
Stenographers	2	7	9.00	9.29	1.626	1.796	.181	.182	+	.161	9.91
Stenographers, female	9	8	9.33	8.25	1.728	1.516	.183	.184	—	.212	12.27
Structural workers.	65	49	10.00	10.00	1.901	1.913	.190	.191	+	.012	0.63
Teamsters	18	16	9.91	10.00	1.984	1.96	.20	.196	—	.021	1.21
Testers	53	79	10.00	10.00	2.075	2.05	.207	.202	—	.025	1.20
Time keepers	3	3	10.00	10.00	2.068	2.167	.206	.217	+	.064	4.08
Tinners	31	3	10.00	10.00	2.166	2.166	.217	.217			
Tool makers		20		10.00		3.075		.306			
Trackmen	13		10.00		1.977		.198				
Watchmen	35	35	11.47	11.23	1.751	1.86	.159	.166	+	.100	6.38
Woodworkers	26	33	10.00	10.00	1.967	1.968	.197	.199	+	.020	1.07
Total	6,513	7,072	9.92	9.98	\$2.071	\$2.069	\$.209	\$.209	+	\$.011	0.53

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$7.33 or less	6	6			6	6	\$0.33				\$0.33	
.34 to .41.	6	10			6	10	\$0.373	.40			\$0.373	.40
.42 to .49.	3	3	2	1	5	4	.42	.42	\$.42	\$.42	.42	.42
.50 to .58.	46	81		5	46	86	.521	.528		.554	.521	.53
.59 to .66.	16	17		2	16	19	.606	.606		.63	.606	.606
.67 to .74.	24	15	1	7	25	22	.683	.674	.73	.679	.684	.675
.75 to .83.	132	127	15	12	147	139	.752	.756	.792	.787	.757	.759
.84 to .91.	12	31	1	7	13	38	.878	.889	.90	.891	.879	.889
.92 to .99.	15	3		2	15	5	.947	.927		.92	.947	.924
1.00 to 1.08.	181	198	4	9	185	202	1.002	1.003	1.013	1.00	1.002	1.008
1.09 to 1.16.	25	11			25	11	1.116	1.117			1.116	1.117
1.17 to 1.24.	6	8	1	1	7	9	1.175	1.196	1.17	1.18	1.174	1.194
1.25 to 1.33.	196	152	2	2	198	154	1.256	1.259	1.275	1.25	1.255	1.262
1.34 to 1.41.	47	70			47	70	1.385	1.387			1.386	1.387
1.42 to 1.49.	5	10			5	10	1.436	1.433			1.436	1.433
1.50 to 1.58.	721	625	1	2	722	627	1.501	1.501	1.50	1.50	1.501	1.501
1.59 to 1.66.	589	603			589	603	1.623	1.623			1.623	1.623
1.67 to 1.74.	123	135		2	123	137	1.696	1.70		1.67	1.696	1.70
1.75 to 1.83.	771	1,145		1	771	1,140	1.753	1.76		1.75	1.753	1.76
1.84 to 1.91.	202	173			202	179	1.867	1.872			1.867	1.872
1.92 to 1.99.	20	29			20	29	1.943	1.945			1.943	1.945
2.00 to 2.08.	648	565	4	1	652	590	2.002	2.002	2.00	2.00	2.002	2.002
2.09 to 2.16.	81	89			81	89	2.125	2.141			2.125	2.141
2.17 to 2.24.	24	33			24	33	2.198	2.202			2.198	2.202
2.25 to 2.33.	368	408	1		369	408	2.253	2.255	2.33		2.253	2.255
2.34 to 2.41.	133	90			133	80	2.377	2.374			2.377	2.374
2.42 to 2.49.	17	189			17	189	2.448	2.45			2.448	2.45
2.50 to 2.58.	667	524		1	667	525	2.511	2.501		2.50	2.511	2.501
2.59 to 2.66.	109	127			109	127	2.632	2.632			2.632	2.632
2.67 to 2.74.	39	42			39	42	2.699	2.691			2.699	2.691
2.75 to 2.83.	305	339			305	339	2.754	2.755			2.754	2.755
2.84 to 2.91.	109	123			109	123	2.88	2.885			2.88	2.885
2.92 to 2.99.	1	75			1	75	2.95	2.95			2.95	2.95
3.00 to 3.08.	356	397			356	397	3.005	3.003			3.005	3.003
3.09 to 3.16.	50	51			50	51	3.138	3.127			3.138	3.127
3.17 to 3.24.	18	17			18	17	3.198	3.198			3.198	3.198
3.25 to 3.33.	115	203			115	203	3.256	3.271			3.256	3.271
3.34 to 3.41.	82	30			82	30	3.382	3.388			3.382	3.388
3.42 to 3.49.	2	2			2	2	3.455	3.45			3.455	3.45
3.50 to 3.58.	78	127			78	127	3.501	3.501			3.501	3.501
3.59 to 3.66.	15	11			15	11	3.607	3.625			3.607	3.625
3.67 to 3.74.	4	4			4	4	3.70	3.70			3.70	3.70
3.75 to 3.83.	23	24			23	24	3.752	3.756			3.752	3.756
3.84 to 3.91.	9	9			9	9	3.856	3.85			3.856	3.85
4.00 to 4.08.	47	25			47	25	4.00	4.001			4.00	4.001
4.17 to 4.24.	1	2			1	2	4.20	4.17			4.20	4.17
4.25 to 4.33.	6	3			6	3	4.272	4.255			4.272	4.255
4.34 to 4.41.		9				9	4.50				4.50	
4.42 to 4.49.		2				2	4.67				4.67	
4.50 to 4.58.		1				1	4.75				4.75	
4.59 to 4.66.		1				1	4.90				4.90	
4.67 to 4.74.		17				17	5.00	5.00			5.00	5.00
4.75 to 4.83.		4				4	5.10				5.10	
4.84 to 4.91.		3				3	5.50	5.50			5.50	5.50
4.92 to 5.00.		1				1	5.85				5.85	
5.01 to 5.08.		2				2	6.00	6.00			6.00	6.00
5.09 to 5.16.		1				1	6.50				6.50	
5.17 to 5.24.		3				3	7.15				7.15	
5.25 to 5.33.		1				1	7.20				7.20	
5.34 to 5.41.		1				1	7.75				7.75	
5.42 to 5.49.		1				1	8.33				8.33	
5.50 to 5.58.		1				1	8.70				8.70	
5.59 to 5.66.		1				1	8.90				8.90	
5.67 to 5.74.		1				1						
5.75 to 5.83.		1				1						
5.84 to 5.91.		1				1						
5.92 to 6.00.		1				1						
6.01 to 6.08.		1				1						
6.09 to 6.16.		1				1						
6.17 to 6.24.		1				1						
6.25 to 6.33.		1				1						
6.34 to 6.41.		1				1						
6.42 to 6.49.		1				1						
6.50 to 6.58.		1				1						
6.59 to 6.66.		1				1						
6.67 to 6.74.		1				1						
6.75 to 6.83.		1				1						
6.84 to 6.91.		1				1						
6.92 to 7.00.		1				1						
7.01 to 7.08.		1				1						
7.09 to 7.16.		1				1						
7.17 to 7.24.		1				1						
7.25 to 7.33.		1				1						
7.34 to 7.41.		1				1						
7.42 to 7.49.		1				1						
7.50 to 7.58.		1				1						
7.59 to 7.66.		1				1						
7.67 to 7.74.		1				1						
7.75 to 7.83.		1				1						
7.84 to 7.91.		1				1						
7.92 to 8.00.		1				1						
8.01 to 8.08.		1				1						
8.09 to 8.16.		1				1						
8.17 to 8.24.		1				1						
8.25 to 8.33.		1				1						
8.34 to 8.41.		1				1						
8.42 to 8.49.		1				1						
8.50 to 8.58.		1				1						
8.59 to 8.66.		1				1						
8.67 to 8.74.		1				1						
8.75 to 8.83.		1				1						
8.84 to 8.91.		1				1						
8.92 to 9.00.		1				1						
Total	6,481	7,017	32	55	6,513	7,072	\$2.076	\$2.091	\$1.091	\$1.946	\$2.071	\$2.082

Remarks.—The manufacture of machinery has for years been one of the most important industries of Wisconsin. It has experienced an exceedingly rapid growth, the output in 1900 being nearly treble that of 1890. In the same decade the number of establishments increased from 155 to 272. Reports from about 28 per cent. of these form the basis of the foregoing tables. A very substantial gain is evident for the years 1904 and 1905. This is seen in the increase in 1905 of 11 per cent. in the total capital invested, all items of investment showing an increase; of 14 per cent. in the value of the materials used, of 22 per cent. in the average number of employees, and of 20 per cent. in the value of the output. The average yearly earnings of employees increased about 2 per cent. Labor's share of the industry product was large each year—62 per cent. in 1904 and 61 per cent. in 1905. Employment was somewhat irregular, especially in 1905. The number of female employees was each year less than 1 per cent. of the total number of persons employed. Their number nearly doubled, however, for 1905. They were employed chiefly in occupations peculiar to the industry, only about one-third working in accessory occupations. They averaged about 9 2/3 hours of work per day in 1904. In 1905 their hours were about 2 per cent. less, and their average daily wages 10 per cent. less. A small number of children were also employed in this industry.

34. MALT—14 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	2	2		
Number of male partners	4	4		
Number of female partners				
Total number of partners	4	4		
Number of corporations	12	12		
Number of male stockholders	1,804	1,850	+ 86	+ 6.80
Number of female stockholders	28	81	+ 3	+ 10.71
Total number of stockholders	1,832	1,931	+ 89	+ 6.89
Total number of partners and stockholders ..	1,896	1,985	+ 89	+ 6.87
Smallest number of persons employed	158	164	+ 8	+ 5.19
Greatest number of persons employed	305	344	+ 39	+ 12.13
Average number of persons employed	237	292	+ 15	+ 5.69
Average number of days in operation	402	417	— 45	— 9.47

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$319,709 06	\$327,306 06	+ \$7,686 99	2.40
Buildings and fixtures	1,477,719 82	1,517,024 47	+ 39,304 65	2.67
Machinery, etc.,	491,338 10	532,084 30	+ 40,726 23	18.46
Cash and other capital	1,856,844 04	1,754,745 35	- 101,098 69	5.45
Total	\$4,144,631 08	\$4,181,250 26	+ \$36,619 18	0.88

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$3,730,710 46	\$3,625,494 54	- \$105,225 92	2.82
Other material used	201,249 52	180,945 20	- 20,304 23	10.09
Wages	179,060 88	177,052 88	- 2,008 00	1.12
Salaries	86,115 16	74,747 67	- 11,367 49	1.50
Profit and minor expenses	2,004,811 82	2,029,113 60	+ 24,301 78	3.14
Goods made and work done	6,201,947 84	6,087,343 97	- 114,603 87	3.25

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$6,201,947 84	\$6,087,343 97
Value of stock used and material consumed in production	3,931,959 93	3,806,429 83
Industry product (gross production less value of stock and material)	2,359,987 88	2,280,914 14
Wages and salaries (Labor's direct share of product)	265,176 04	251,800 55
Profit and minor expense fund (Industry product less wages)	2,094,811 82	2,029,113 59
Percentage of industry product paid in wages	Per cent. 11.24	11.04
Percentage of industry product devoted to profit and minor expenses	88.76	88.96

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$15,522 96	\$14,827 13	— \$695 83	4.48
Average product per employee	23,561 00	22,583 33	— 975 27	4.14
Average yearly earnings	670 67	627 84	— 42 83	6.39

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	395	396	100.—	88.95	.....	11.05
February	300	305	98.30	88.08	1.64	11.34
March	305	303	100.	88.08	.....	11.92
April	302	311	99.02	90.41	0.98	9.59
May	293	311	96.07	90.41	3.93	9.59
June	249	289	81.64	84.01	18.36	15.99
July	188	199	60.98	57.85	39.02	42.15
August	156	194	51.15	47.67	48.85	52.33
September	220	198	72.13	57.56	27.87	42.44
October	297	323	97.38	93.90	2.62	6.10
November	296	324	97.05	97.09	2.95	2.91
December	294	344	96.39	100.—	3.61	.....
Average	297	282	87.54	81.99	12.46	18.02

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Bag menders, female	7	10	10		\$.50		\$.087			
Carpenters	2	2	9.50	9.50	1.375	\$1.375	.14	\$.14		
Elevator men	21	28	10	10	1.992	1.92	.199	.192	— \$.072	3.61
Engineers	21	21	9.83	10.19	2.222	2.346	.226	.230	+	.124
Firemen	15	21	10.27	10.19	1.816	1.847	.177	.191	+	.031
Foremen	6	6	10	10	3.412	3.367	.341	.337	—	.055
Helpers	8	15	10	10	1.839	1.759	.187	.174	—	.130
Laborers	56	46	10	10	1.600	1.679	.169	.168	—	.011
Maltsters	161	192	9.97	10	2.025	2.108	.203	.211	+	.083
Millwrights	4	3	10	10	2.16	2.107	.216	.217	+	.007
Teamsters	8	6	10	10	2.00	2.00	.20	.20		
Total and av.	314	340	10.01	10.21	\$1.961	\$2.034	\$.196	\$.199	+	\$.073

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1904.		1904.		1904.		1904.		1904.	
	1905.	1905.	1905.	1905.	1905.	1905.	1905.	1905.	1905.	1905.	1905.	1905.
\$.50 to \$.58	1	1			1	1	\$.50	\$.50			\$.50	\$.50
.75 to .83			3		3				\$.75		.75	
.84 to .91			2		2				.91		.91	
1.00 to 1.08		1	2		2	1		1.00	1.00		1.00	1.00
1.25 to 1.33	4				4		1.28				1.28	
1.34 to 1.41	1	1			1	1	1.35	1.35			1.35	1.35
1.50 to 1.58	19	31			19	31	1.50	1.54			1.50	1.54
1.59 to 1.66	9	8			9	8	1.654	1.654			1.654	1.654
1.67 to 1.74	14	10			14	10	1.70	1.686			1.70	1.686
1.75 to 1.83	50	44			50	44	1.794	1.788			1.794	1.788
1.84 to 1.91	12	17			12	17	1.851	1.859			1.851	1.859
1.92 to 1.99	12	4			12	4	1.98	1.98			1.98	1.98
2.00 to 2.08	146	63			146	63	2.041	2.001			2.041	2.001
2.09 to 2.16	4	98			4	98	2.155	2.14			2.155	2.14
2.17 to 2.24	4	6			4	6	2.215	2.202			2.215	2.202
2.25 to 2.33	2	16			2	16	2.25	2.264			2.25	2.264
2.34 to 2.41		1				1		2.39				2.39
2.42 to 2.49		1				1		2.43				2.43
2.50 to 2.58	16	19			16	19	2.50	2.50			2.50	2.50
2.59 to 2.66	6	4			6	4	2.65	2.645			2.65	2.645
2.67 to 2.74	2	7			2	7	2.67	2.67			2.67	2.67
2.84 to 2.91		2				2		2.85				2.85
3.00 to 3.08	2	3			2	3	3.00	3.03			3.00	3.03
3.25 to 3.33	1	1			1	1	3.33	3.33			3.33	3.33
5.00 to 5.08	2	2			2	2	5.00	5.00			5.00	5.00
Total and average	307	340	7		314	340	\$1.996	\$2.034	\$.887		\$1.961	\$2.084

Remarks.—In general this industry shows a slight loss for 1905. Although there was a small increase in the total capital invested—the sum devoted to machinery increasing over 18 per cent.,—and an increase of 6 per cent. in the average number of persons employed, there was a decrease of 9 per cent. in the number of days of operation, and of from 1 per cent to 3 per cent. in the materials used, the total wages and salaries paid, and the value of the output. The average yearly earnings of employees were in consequence about 6 per cent. less in 1905. The number of days of operation—462 in 1904 and 417 in 1905—indicates that both day and night shifts were worked for a portion of the year. Employment was very irregular each year. July, August, and September were the months of maximum unemployment. This was due to the nature of the industry, since in those months the previous year's grain was becoming exhausted, while the new crop was only beginning to be available.

Females were employed only in 1904, when seven found work in the subsidiary occupation of bag menders. They worked 10 hours per day. Men's hours were slightly over 10 per day, and increased about 2 per cent. in 1905. Labor's share of the industry product was exceptionally small each year—only 11 per cent.

35. MALT LIQUORS—63 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	25	23	— 2	8.00
Number of male partners.....	32	30	— 2	6.25
Number of female partners.....	4	4	—	—
Total number of partners.....	36	34	— 2	5.56
Number of corporations.....	38	40	+ 2	5.26
Number of male stockholders.....	360	370	+ 10	2.78
Number of female stockholders.....	84	87	+ 3	3.57
Total number of stockholders.....	444	457	+ 13	2.93
Total number of partners and stockholders..	480	491	+ 11	2.30
Smallest number of persons employed.....	3,456	2,471	+ 15	0.61
Greatest number of persons employed.....	8,041	8,163	+ 122	4.01
Average number of persons employed.....	2,699	2,302	+ 103	3.82
Average days in operation.....	325	322	— 3	0.92

TABLE II—INVESTMENT.

Classification,	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$7,891,300 08	\$8,210,740 87	+ \$319,440 84	4.14
Buildings and fixtures.....	4,589,412 23	4,674,749 90	+ 85,337 68	1.86
Machinery, etc.	3,679,213 56	3,738,416 67	+ 49,203 11	1.34
Cash and other capital.....	9,792,964 81	11,416,892 89	+ 623,898 08	6.37
Total	\$25,952,890 68	\$27,080,770 33	+\$1,077,879 71	4.15

TABLE III A--VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$3,352,425 98	\$3,444,119 81	+ \$91,693 83	2.74
Other material used	1,200,880 00	1,315,447 98	+ 15,567 98	1.20
Wages	1,491,300 68	1,568,111 80	+ 76,811 17	5.15
Salaries	540,781 96	578,853 16	+ 38,071 20	7.70
Profit and minor expenses....	9,357,859 68	9,411,589 97	+ 53,730 31	0.57
Goods made and work done..	\$16,042,248 23	\$16,318,122 22	+ \$270,873 99	1.69

TABLE III B--ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$16,042,248 23	\$16,318,122 22
Value of stock used and material consumed in production	4,652,305 98	4,759,597 29
Industry product (gross production less value of stock and material)	11,389,942 25	11,558,524 93
Wages and salaries (Labor's direct share of product)	2,032,082 59	2,141,964 96
Profit and minor expense fund (Industry product less wages)	9,357,859 66	9,416,560 97
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	17.84	18.54
Percentage of industry product devoted to profit and minor expenses	32.16	31.46

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905	Amount.	Per cent.
Average capital per employee.....	\$9,615 74	\$9,646 96	+ \$31 22	0.32
Average product per employee.....	5,943 77	5,821 96	— 121 81	2.05
Average yearly earnings	552 64	550 64	+ 7 10	1.29

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905	1904	1905
January	2,461	2,594	80.98	82.01	19.07	17.99
February	2,456	2,471	80.78	78.12	19.22	21.89
March	2,523	2,568	82.97	81.19	17.03	18.81
April	2,634	2,647	86.02	83.09	13.98	16.91
May	2,731	2,675	89.81	84.57	10.19	15.43
June	2,904	3,130	95.50	98.96	4.50	1.04
July	3,041	3,136	100.—	99.15	0.00	0.85
August	3,014	3,163	99.11	100.—	0.89	0.00
September	2,877	3,066	94.61	97.57	5.39	2.43
October	2,694	2,906	88.59	91.88	11.41	8.12
November	2,577	2,637	84.74	83.37	15.26	16.63
December	2,474	2,610	81.85	82.53	18.05	17.48
Average	2,699	2,802	88.75	88.59	11.25	11.41

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Apprentices	14	14	8.21	8	\$1.409	\$1.461	\$.183	\$.183	—	\$.038	2.54
Barkeepers	1	1	8	8	1.26	1.26	.156	.156	—	—	—
Barkeepers' helpers ..	1	1	8	8	.68	.68	.085	.085	—	—	—
Blacksmiths	4	4	9.75	8.50	2.875	2.875	.295	.338	—	—	—
Bottlers	212	206	8.60	8.50	1.253	1.166	.136	.136	—	.067	6.94
Bottlers, female	38	26	8.84	9.16	.851	.971	.096	.106	+	.12	14.10
Box carriers	36	36	8	8	.831	.831	.104	.104	—	—	—
Brewers	269	268	9.11	9.06	2.381	2.338	.261	.264	—	.012	.50
Brewers' helpers	3	9	10	10	1.417	1.644	.142	.164	+	.227	16.08
Carpenters	63	66	8.22	8.11	2.537	2.606	.309	.321	+	.066	2.63
Cellar men	86	127	8.66	8.46	2.34	2.406	.27	.296	+	.155	6.62
Clerks	4	4	8.50	8	2.315	2.315	.272	.272	—	—	—
Coopers	77	72	8.04	8.03	2.613	2.668	.325	.333	+	.075	2.87
Corkers	283	283	8	8	1.307	1.307	.163	.163	—	—	—
Electricians	1	3	8	8	3.85	2.923	.481	.365	+	.073	1.90
Elevator men	2	2	8	8	2.75	2.75	.344	.344	—	—	—
Engineers	44	41	9.39	9.43	2.471	2.428	.263	.257	—	.043	1.74
Firemen	43	37	9.40	9.08	2.061	2.11	.219	.232	+	.049	2.38
Foremen	44	30	8.41	8.53	3.047	2.915	.368	.342	—	.133	4.33
Galvanizers	3	3	8	8	2.167	2.167	.271	.271	—	—	—
Galvanizers' helpers ..	1	1	8	8	1.00	1.00	.125	.125	—	—	—
Helpers	91	102	9.41	8.42	1.461	1.139	.155	.135	—	.392	22.04
Helpers, female	13	11	9.00	10	.774	.969	.081	.081	+	.037	4.52
Hostlers	29	31	9.10	8.90	2.066	2.06	.23	.235	—	.006	.26
Kettle men	30	2	8.40	10	2.429	1.75	.289	.175	—	.679	27.96
Labelers, female	74	136	8	9	.514	.532	.064	.067	+	.015	2.50
Laborers	754	314	8.98	9.62	1.781	1.613	.166	.166	—	.169	9.49
Machine tenders	196	12	8.14	9.91	1.403	1.271	.172	.128	—	.132	9.41
Machine tenders, fe- male	3	21	9	10	.75	.68	.076	.068	—	.07	9.33
Machinists	27	40	8.44	8.40	2.494	2.837	.295	.338	+	.343	13.40
Maltsters	71	64	9.08	9.52	2.299	2.303	.252	.231	—	.066	4.22
Maltsters' helpers ..	5	10	8	8	1.50	1.50	—	—	—	—	—
Masons	11	3	8	8	3.145	4.40	.393	.55	+	1.255	39.90
Millwrights	17	12	8	8	2.41	2.694	.301	.333	+	.264	10.54
Oilers	4	14	10.67	8.29	2.443	2.224	.229	.268	—	.219	8.87
Packers	20	373	8	8	2.17	2.017	.271	.252	—	.153	7.06
Painters	26	31	8.08	8.10	2.417	2.413	.299	.298	—	.00	.12
Patternmakers	1	1	8	8	3.60	3.00	.45	.375	—	.60	16.67
Peddlers	50	52	9.11	8.90	2.475	2.534	.282	.285	+	.050	2.38
Pitchers	95	95	8	8	2.352	2.352	.294	.294	—	—	—
Plumbers	1	1	8	8	4.00	4.00	—	—	—	—	—
Steam fitters	5	5	9	9	3.234	3.234	.404	.404	—	—	—
Teamsters	150	205	8.92	9.19	2.137	2.16	.239	.235	+	.023	1.08
Tinners	9	8	8	8.13	2.813	2.916	.365	.359	+	.103	8.68
Wagon makers	22	23	8	8	2.307	2.290	.288	.287	—	.011	.48
Washers	61	64	9.25	8.16	2.231	2.321	.27	.273	—	—	—
Washers, female	116	173	8	8	.58	.884	.11	.115	+	.004	.45
Watchmen	19	20	11.53	9.90	2.053	2.009	.178	.203	—	.044	2.14
Weighers	2	1	8	9	2.31	1.65	.299	.183	—	.06	29.57
Total and average	2,764	3,110	8.74	8.84	\$1.861	\$1.801	\$.213	\$.204	—	\$.06	3.22

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages (inclusive.)	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58.	.....	1	74	114	74	115	.....	\$ .50	\$.514	\$.519	\$.514	\$.519
.59 to .65.	7	61	.....	9	7	90	\$.643	.649	.....	.60	.643	.613
.67 to .74.	4	4	14	7	18	11	.673	.67	.672	.67	.672	.67
.75 to .83.	24	29	19	17	43	46	.796	.802	.782	.782	.788	.796
.84 to .91.	43	145	123	176	166	321	.89	.896	.878	.879	.884	.887
.92 to .99.	2	.....	.....	.....	2	.....	.96	.....	.....	.....	.96	.....
1.00 to 1.08.	28	38	16	23	44	60	1.006	1.008	1.00	1.00	1.004	1.005
1.09 to 1.16.	113	102	.....	.....	113	102	1.101	1.101	.....	.....	1.101	1.101
1.17 to 1.24.	12	14	.....	2	12	16	1.185	1.198	.....	1.20	1.185	1.198
1.25 to 1.33.	241	62	.....	.....	241	62	1.223	1.270	.....	.....	1.223	1.270
1.34 to 1.41.	42	237	.....	.....	42	237	1.38	1.395	.....	.....	1.38	1.395
1.42 to 1.49.	3	.....	.....	.....	3	.....	1.427	.....	.....	.....	1.427	.....
1.50 to 1.58.	179	205	.....	.....	179	205	1.512	1.510	.....	.....	1.512	1.516
1.59 to 1.66.	39	36	.....	.....	39	36	1.643	1.621	.....	.....	1.643	1.621
1.67 to 1.74.	54	44	.....	.....	54	44	1.695	1.697	.....	.....	1.695	1.697
1.75 to 1.83.	54	63	.....	.....	54	63	1.706	1.707	.....	.....	1.706	1.757
1.84 to 1.91.	359	21	.....	.....	359	21	1.88	1.877	.....	.....	1.88	1.877
1.92 to 1.99.	22	21	.....	.....	22	21	1.92	1.923	.....	.....	1.92	1.923
2.00 to 2.08.	190	490	.....	.....	190	490	2.013	2.008	.....	.....	2.013	2.002
2.09 to 2.16.	39	53	.....	.....	39	53	2.141	2.137	.....	.....	2.141	2.137
2.17 to 2.24.	180	123	.....	.....	180	123	2.183	2.185	.....	.....	2.183	2.185
2.25 to 2.33.	366	406	.....	.....	366	406	2.274	2.321	.....	.....	2.274	2.321
2.34 to 2.41.	118	48	.....	.....	118	48	2.403	2.396	.....	.....	2.403	2.396
2.42 to 2.49.	15	7	.....	.....	15	7	2.42	2.44	.....	.....	2.42	2.44
2.50 to 2.58.	247	177	.....	.....	247	177	2.542	2.508	.....	.....	2.542	2.508
2.59 to 2.66.	24	3	.....	.....	24	3	2.60	2.617	.....	.....	2.60	2.617
2.67 to 2.74.	20	156	.....	.....	20	156	2.678	2.67	.....	.....	2.678	2.67
2.75 to 2.83.	81	124	.....	.....	81	124	2.799	2.799	.....	.....	2.799	2.799
2.84 to 2.91.	2	3	.....	.....	2	3	2.885	2.89	.....	.....	2.885	2.89
2.92 to 2.99.	.....	7	.....	.....	.....	7	.....	2.949	.....	.....	.....	2.949
3.00 to 3.08.	19	24	.....	.....	19	24	3.00	3.00	.....	.....	3.00	3.00
3.09 to 3.16.	2	.....	.....	.....	2	.....	3.10	.....	.....	.....	3.10	.....
3.17 to 3.24.	1	2	.....	.....	1	2	3.17	3.185	.....	.....	3.17	3.185
3.25 to 3.33.	19	14	.....	.....	19	14	3.306	3.320	.....	.....	3.305	3.323
3.34 to 3.42.	6	1	.....	.....	6	1	3.45	3.48	.....	.....	3.45	3.42
3.50 to 3.58.	2	4	.....	.....	2	4	3.50	3.50	.....	.....	3.50	3.50
3.59 to 3.66.	2	1	.....	.....	2	1	3.60	3.65	.....	.....	3.60	3.65
3.67 to 3.74.	1	9	.....	.....	1	2	3.67	3.67	.....	.....	3.67	3.67
3.75 to 3.83.	1	1	.....	.....	1	1	3.83	3.83	.....	.....	3.83	3.83
3.84 to 3.91.	2	2	.....	.....	2	2	3.85	3.85	.....	.....	3.85	3.85
4.00 to 4.08.	4	4	.....	.....	4	4	4.00	4.00	.....	.....	4.00	4.00
4.09 to 4.16.	1	.....	.....	.....	1	.....	4.16	.....	.....	.....	4.16	.....
4.17 to 4.24.	4	3	.....	.....	4	3	4.17	4.17	.....	.....	4.17	4.17
4.24 to 4.31.	.....	3	.....	.....	.....	3	.....	4.40	.....	.....	.....	4.40
4.50 to 4.58.	2	2	.....	.....	2	2	4.50	4.50	.....	.....	4.50	4.50
4.59 to 4.66.	.....	1	.....	.....	.....	1	.....	4.60	.....	.....	.....	4.60
4.75 to 4.83.	1	1	.....	.....	1	1	4.80	4.80	.....	.....	4.80	4.80
5.00 to 5.08.	3	3	.....	.....	3	3	5.00	5.00	.....	.....	5.00	5.00
5.17 to 5.24.	1	.....	.....	.....	1	.....	5.20	.....	.....	.....	5.20	.....
5.50 to 5.58.	.....	1	.....	.....	.....	1	.....	5.50	.....	.....	.....	5.50
5.75 to 5.83.	1	.....	.....	.....	1	.....	5.75	.....	.....	.....	5.75	.....
5.92 to 5.99.	1	.....	.....	.....	1	.....	5.92	.....	.....	.....	5.92	.....
7.00 to 7.08.	.....	1	.....	.....	.....	1	.....	7.00	.....	.....	.....	7.00
Total and average	2,518	2,753	246	397	2,764	3,150	\$1.900	\$1.942	\$.757	\$.746	\$1.861	\$1.871

Remarks.—The manufacture of malt liquors ranked in 1900 as the sixth industry in the state. In the two years covered by this report the industry experienced a moderate gain in the capital invested, the materials used, the number of employees, the wages paid, and the output. The opening of new lands in the northern part of the state to agriculture, together with constantly increasing transportation facilities, gives promise of the continued growth of this industry. As in the case of the independent malt industry, Labor's share of the industry product was very small, being but 18 per cent. in 1904 and 19 per cent. in 1905. Employment was quite irregular. It was at its maximum in June, July, and August, the months when the product of the industry was in the greatest demand. The number of female employees was 9 per cent. of the total number in 1904, and 12 per cent. in the following year—an increase of nearly 50 per cent. They were, with but few exceptions, employed in occupations accessory to the industry, such as those of bottlers, labelers, and washers. Both male and female employees averaged about 9 hours' work per day. There was an inconsiderable increase in the average hours for 1905, and a slight decrease in the average daily wages.

36. OFFICE AND STORE FIXTURES—15 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	6	6		
Number of male partners.....	13	14	+ 1	7.69.
Number of female partners.....				
Total number of partners.....	13	14	+ 1	7.69
Number of corporations.....	9	9		
Number of male stockholders.....	290	297	— 2	0.67
Number of female stockholders.....	45	46	+ 1	2.22
Total number of stockholders.....	344	343	— 1	0.29
Total number of partners and stockholders..	357	357		
Smallest number of persons employed.....	890	911	+ 91	11.10
Greatest number of persons employed.....	1,082	1,029	— 54	4.99
Average number of persons employed.....	1,010	971	— 39	3.86
Average days in operation.....	291	298	+ 1	0.34

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$157,008 00	\$160,550 00	+ \$2,642 00	1.67
Buildings and fixtures	340,117 27	350,538 91	+ 10,421 04	3.04
Machinery, etc.	259,756 38	285,721 45	+ 25,965 07	10.00
Cash and other capital	730,203 03	751,034 01	+ 20,830 16	2.85
Total	\$1,487,085.51	\$1,547,844 37	+ \$60,858 86	4.02

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$572,303 63	\$504,080 44	-- \$68,223 19	1.45
Other material used	129,405 19	128,192 65	-- 1,212 54	0.94
Wages	509,242 19	490,613 59	-- 18,628 60	3.66
Salaries	114,746 57	113,584 89	-- 1,162 19	1.01
Profit and minor expense.....	290,656 63	291,561 06	+ 904 43	0.30
Goods made and work done..	\$1,616,394 21	\$1,587,992 13	-- \$28,402 08	1.76

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904	1905
Goods made and work done (gross product).....	\$1,616,394 21	\$1,587,992 13
Value of stock used and material consumed in pro- duction	701,708 32	692,213 00
Industry product (gross production less value of stock and material)	914,685 39	895,779 04
Wages and salaries (Labor's direct share of product)	623,983 76	604,107 96
Profit and minor expense fund (industry product less wages)	290,696 63	291,561 06
Percentage of industry product paid in wages	Per cent. 68.22	Per cent. 67.45
Percentage of industry product devoted to profit and minor expenses	31.78	32.55

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,473 25	\$1,594 07	+ \$120 52	8.20
Average product per employee	1,600 39	1,635 42	+ 35 03	2.19
Average yearly earnings	504 20	505 27	+ 1 07	0.21

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	1,060	958	97.97	93.19	2.03	6.81
February	1,076	938	99.45	91.25	0.55	8.75
March	1,062	945	100.—	91.93	.....	8.07
April	1,037	947	95.84	92.12	4.16	7.88
May	1,052	1,305	97.23	97.76	2.77	2.24
June	978	1,023	90.39	100.—	9.61	.....
July	820	911	75.78	88.62	24.22	11.38
August	890	939	82.25	91.34	17.75	8.66
September	1,021	925	94.36	89.98	5.64	10.02
October	1,042	1,026	96.30	99.81	3.70	0.19
November	1,038	1,014	95.93	98.64	4.07	1.36
December	1,026	1,015	94.82	98.74	5.18	1.26
Average	1,010	971	93.35	94.46	6.65	5.54

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	3	10			\$.987		\$.097			
Bandsawyers	2	10			1.800		.180			
Blacksmiths	1	4	10	10	1.500	\$1.975	.150	\$.187	+ \$.375	.25
Cabinetmakers	157	201	9.57	10	2.194	2.014	.940	.201	— .180	8.47
Carpenters	125	98	9.74	9.72	1.949	2.137	.800	.22	— .312	41.03
Carvers	23	20	9.02	9.06	2.674	2.996	.907	.301	+ .324	12.11
Clerks	2	8	10	10	1.875	1.917	.187	.199	+ .042	2.24
Contractors	10	10	10	10	1.890		.189			
Drillers	3	8	10	10	.817	1.700	.082	.170	+ .883	108.08
Engineers	5	6	9.60	10	2.550	2.718	.886	.973	+ .106	6.61
Filers	1	10	10		2.000	2.000	.200			
Finishers	115	128	9.77	9.94	1.725	1.709	.178	.177	+ .044	2.55
Firemen	4	6	10	10	1.737	1.716	.174	.172	+ .019	1.09
Fitters	15	6	10	10	1.407	1.450	.141	.145	+ .042	3.06
Foremen	8	14	10	10	2.664	2.829	.989	.283	+ .137	6.01
Glueers	11	16	10	10	1.896	1.819	.188	.182	— .067	4.11
Grinders	4	8	10	10	1.500	1.700	.150	.170	+ .200	13.33
Helpers	141	122	9.81	9.96	.908	.995	.921	.999	+ .304	10.19
Helpers, female		1		10		.830		.083		
Inspectors		2		10		2.050		.205		
Laborers	123	57	9.13	10	1.522	1.536	.154	.154	+ .014	.02
Machine operators	173	137	9.33	9.96	1.723	1.754	.179	.177	+ .031	1.85
Machine operators' helpers	2		10		.710		.071			
Machinists	21	25	9.67	9.96	2.018	1.979	.209	.199	— .085	1.38
Melters		8		10		1.750		.175		
Metal workers	19	19	10	10	1.679	1.521	.168	.152	— .154	9.41
Millwrights	1		10		3.250		.325			
Molders	59	52	9.66	10	2.703	2.750	.979	.973	+ .047	1.75
Oilers		2		10		1.500		.150		
Organmakers		8		10		2.750		.975		
Packers	13	31	10	10	1.354	1.809	.135	.131	— .045	3.33
Painters	4	19	10	10	2.050	1.892	.205	.189	— .156	7.77
Patternmakers		2		10		3.250		.325		
Platers	1	6	10	10	2.250	1.400	.225	.140	— .850	37.78
Polishers	1	15	10	10	2.000	1.773	.200	.177	— .227	11.35
Scalers	1		10		2.000		.200			
Shopmen		17		10		1.741		.174		
Stonecutters	2	3	10	10	3.000	3.466	.800	.847	+ .466	15.53
Teamsters	10	12	9.90	9.92	1.689	1.686	.171	.170	— .008	.18
Trimmers	7	4	10	10	2.500	1.500	.250	.150	— 1.000	40.00
Turners		2		10		2.250		.225		
Upholsterers	1	6	10	10	1.650	2.167	.217	.217	+ .517	31.38
Watchmen	7	8	10.86	10.75	1.404	1.469	.135	.157	+ .006	3.42
Total and average	1,085	1,052	9.66	9.96	\$1,776	\$1,810	\$.186	\$.188	+ \$.084	1.91

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1901.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.59	20	4	.....	.....	20	4	\$.50	\$.59	.....	.....	\$.50	\$.59
.59 to .69	24	18	.....	.....	24	18	.617	.60	.....	.....	.617	.60
.67 to .74	6	9	.....	.....	6	9	.685	.671	.....	.....	.685	.671
.75 to .83	37	54	.....	1	37	55	.770	.771	.....	.83	.770	.771
.84 to .91	7	15	.....	.....	7	15	.864	.897	.....	.....	.864	.897
1.00 to 1.08	35	11	.....	.....	35	11	1.00	1.00	.....	.....	1.00	1.00
1.09 to 1.16	1	7	.....	.....	1	7	1.10	1.15	.....	.....	1.10	1.15
1.17 to 1.24	1	4	.....	.....	1	4	1.20	1.186	.....	.....	1.20	1.186
1.25 to 1.33	85	73	.....	.....	85	73	1.244	1.253	.....	.....	1.244	1.253
1.34 to 1.41	82	97	.....	.....	82	97	1.354	1.356	.....	.....	1.354	1.356
1.42 to 1.49	1	2	.....	.....	1	2	1.45	1.45	.....	.....	1.45	1.45
1.50 to 1.59	196	136	.....	.....	196	136	1.500	1.501	.....	.....	1.500	1.501
1.59 to 1.66	31	36	.....	.....	31	36	1.63	1.632	.....	.....	1.63	1.632
1.67 to 1.74	2	19	.....	.....	2	19	1.67	1.696	.....	.....	1.67	1.696
1.75 to 1.83	127	109	.....	.....	127	109	1.753	1.755	.....	.....	1.753	1.755
1.84 to 1.91	26	23	.....	.....	26	23	1.874	1.863	.....	.....	1.874	1.863
2.00 to 2.08	119	121	.....	.....	119	121	2.00	2.00	.....	.....	2.00	2.00
2.09 to 2.16	10	8	.....	.....	10	8	2.131	2.13	.....	.....	2.131	2.13
2.17 to 2.24	14	28	.....	.....	14	28	2.20	2.20	.....	.....	2.20	2.20
2.25 to 2.33	46	70	.....	.....	46	70	2.255	2.253	.....	.....	2.255	2.253
2.34 to 2.41	23	20	.....	.....	23	20	2.328	2.390	.....	.....	2.328	2.390
2.50 to 2.59	78	59	.....	.....	78	59	2.50	2.50	.....	.....	2.50	2.50
2.59 to 2.66	11	26	.....	.....	11	26	2.626	2.608	.....	.....	2.626	2.608
2.67 to 2.74	.....	2	.....	.....	.....	2	.....	2.70	.....	.....	.....	2.70
2.75 to 2.83	24	54	.....	.....	24	54	2.75	2.75	.....	.....	2.75	2.75
2.84 to 2.91	43	4	.....	.....	43	4	2.855	2.885	.....	.....	2.855	2.885
3.00 to 3.08	16	23	.....	.....	16	23	3.00	3.00	.....	.....	3.00	3.00
3.25 to 3.33	6	9	.....	.....	6	9	3.258	3.250	.....	.....	3.258	3.250
3.34 to 3.41	1	3	.....	.....	1	3	3.38	3.373	.....	.....	3.38	3.373
3.50 to 3.58	2	5	.....	.....	2	5	3.50	3.50	.....	.....	3.50	3.50
3.75 to 3.83	2	1	.....	.....	2	1	3.75	3.75	.....	.....	3.75	3.75
4.00 to 4.08	.....	2	.....	.....	.....	2	.....	4.00	.....	.....	.....	4.00
5.00 to 5.08	.....	1	.....	.....	.....	1	.....	5.00	.....	.....	.....	5.00
7.50 to 7.58	1	1	.....	.....	1	1	7.50	7.50	.....	.....	7.50	7.50
Total and av.	1,085	1,051	.....	1	1,065	1,052	\$1.776	\$1.811	.....	\$.83	\$1.77	\$1.81

Remarks.—In spite of an average increase of 4 per cent. in all items of investment this industry experienced a slight loss in 1905. While the exact cause of this cannot be ascertained, it is probable that the decrease of 4 per cent. in the number of employees was due to the higher wages offered in other industries of the same general character. This seems the more likely from the fact that the three classes of workmen in which this industry suffered the greatest decrease in 1905—namely carpenters, machine operators, and general laborers—were especially in demand in that year. The decrease in the amount of materials used, the total wages and salaries paid, and the output, all followed naturally upon the decrease in the number of employees.

There was, however, an increase of nearly 2 per cent. in the average daily wages of employees. Labor's share of the industry product was large—68 per cent. in 1904 and 67 per cent. in 1905. No female help was employed in this industry, with the exception of one person who worked as general helper in 1905.

37. PAPER AND PULP—27 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms				
Number of male partners				
Number of female partners				
Total number of partners				
Number of corporations	27	27		
Number of male stockholders	2,075	2,077	+ 2	0.10
Number of female stockholders	80	98	+ 18	18.25
Total number of stockholders	2,155	2,170	+ 15	0.70
Total number of partners and stockholders	2,155	2,170	+ 15	0.70
Smallest number of persons employed	3,873	3,802	- 71	1.83
Greatest number of persons employed	3,770	3,748	- 22	0.58
Average number of persons employed	3,568	3,650	+ 82	2.31
Average days in operation	460	521	+ 61	13.26

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$1,276,926 28	\$1,376,707 00	+ \$99,880 72	7.82
Buildings and fixtures	2,366,401 34	2,494,575 19	+ 128,173 85	5.42
Machinery, etc.,	4,177,328 95	4,406,118 62	+ 228,789 67	5.48
Cash and other capital	2,180,515 15	2,526,681 83	+ 346,166 68	15.88
Total	\$10,301,071 72	\$10,804,082 64	+ \$503,010 92	4.88

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$0,289,408 25	\$6,454,460 78	+ \$165,052 53	3.62
Other material used	1,550,523 33	1,642,130 25	+ 91,606 92	5.91
Wages	1,069,343 20	1,718,605 34	+ 649,262 14	6.08
Salaries	247,230 86	243,007 10	- 4,223 76	-1.71
Profit and minor expenses ...	1,179,825 18	1,318,545 34	+ 138,720 16	11.76
Goods made and work done	11,926 329 81	11,283,348 81	+ 355,966 00	3.28

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$10,926,329 81	\$11,289,348 81
Value of stock used and material consumed in production	7,889 931 58	8,006,501 08
Industry product (gross production less value of stock and material)	3,036,461 23	3,135,757 73
Wages and salaries (Labor's direct share of product)	1,906,635 05	1,937,212 44
Profit and minor expense fund (Industry product less wages)	1,179,825 18	1,218,545 34
Percentage of industry product paid in wages	61.77	61.19
Percentage of industry product devoted to profit and minor expenses	38.23	38.80

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,838 69	\$3,958 74	+ \$1,120 05	3.92
Average product per employee	3,008 85	3,088 43	+ 79 58	0.54
Average yearly earnings	465 32	469 69	+ 4 37	0.94

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	3,373	3,657	89.47	97.57	10.53	2.43
February	3,377	3,647	89.58	97.31	10.42	2.69
March	3,467	3,748	91.96	100.—	8.04	.....
April	3,468	3,733	91.96	100.—	8.04	0.40
May	3,723	3,683	98.30	97.73	1.71	2.27
June	3,540	3,616	98.90	96.48	6.10	3.52
July	3,566	3,603	94.59	96.10	5.41	3.90
August	3,740	3,659	99.30	97.44	0.70	2.56
September	3,770	3,624	100.—	96.69	.....	3.31
October	3,500	3,624	99.94	96.69	7.16	3.31
November	3,642	3,676	95.51	98.98	3.39	1.02
December	3,616	3,670	95.98	97.98	4.02	2.02
Average	3,563	3,659	94.39	96.51	5.61	3.69

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Acid men	8	11	11.5	10.73	\$1.75	\$1.79	\$.153	\$.109	+ \$.03	1.72
Acid men's helpers ..	2	4	10	11	1.50	1.50	.150	.139	.....	.....
Back tenders	32	35	11.25	11.54	1.838	1.887	.163	.164	+ .049	2.67
Back tenders' helpers ..	4	48	11	11.92	1.820	1.820	.111	.111	.....	.....
Balers	4	11	10	10	2.00	2.00	.900	.900	.....	.....
Barkers	19	36	10	10	1.516	1.709	.163	.177	+ .160	16.42
Beater men	33	58	10.94	11.66	1.733	1.867	.168	.160	+ .124	7.73
Beater men's helpers ..	50	47	11.72	11.11	1.596	1.618	.135	.146	+ .083	3.06
Blacksmiths	6	9	10	10	1.95	2.12	.195	.212	+ .17	8.73
Bleachers	5	3	9.8	9	1.46	1.65	.149	.123	+ .19	13.01
Bleachers' helpers ..	6	4	10	9.5	1.30	1.338	.130	.146	+ .088	6.77
Blowpit tenders	6	4	12	10	1.206	1.26	.101	.125	+ .042	3.48
Boys	39	39	9.18	9.90	.836	.929	.091	.094	+ .008	1.11
Calenders	20	35	11.2	11.37	1.898	1.76	.169	.154	— .148	7.80
Calenders, female ..	32	30	10	10	1.25	1.25	.125	.125	.....	.....
Calenders' helpers ..	22	14	10.36	10.57	1.438	1.486	.139	.141	+ .048	3.34
Carpenters	12	22	10	10	1.958	2.259	.196	.226	+ .301	15.37
Casemakers	2	1	10	10	1.625	1.50	.163	.150	— .126	7.69
Cooks	18	18	11.56	11.56	2.213	2.213	.192	.200	+ .108	4.65
Cooks' helpers	6	12	12	12	1.80	1.60	.15	.133	— .30	13.20
Coremakers	2	2	10	.....	.875	.....	.088	.....	.....	.....
Counters, female	24	25	9.92	10	1.075	1.106	.108	.111	+ .031	9.33
Cutters	10	8	10.10	9.75	1.715	1.703	.170	.136	+ .009	.63
Cutters, female	48	56	10.13	9.67	.827	.808	.091	.09	+ .041	4.96
Cutters' helpers	5	2	10	10	1.410	1.50	.141	.150	+ .09	6.36
Draymen	1	1	10	10	1.50	1.50	.150	.150	.....	.....
Dusters, female	2	2	9.5	10	.87	.75	.092	.075	— .12	13.79
Electricians	5	5	10.80	11.60	2.00	2.144	.185	.185	+ .144	7.20
Engineers	66	66	11.23	11.21	2.437	2.535	.220	.226	+ .068	3.76
Engineers' helpers ..	79	79	10.94	.....	1.606	.....	.166	.....	.....	.....
Finishers	78	120	9.79	10.08	1.639	1.627	.166	.161	— .012	-.73
Finishers, female	68	107	9.84	9.98	.915	.980	.098	.097	— .065	6.01
Finishers' helpers ..	7	7	11.14	.....	1.399	.....	.11	.....	.....	.....

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.—Continued.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, per day in 1905.		
	1904.	1905	1901.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Firemen	141	141	10.97	10.79	1.841	1.864	.171	.173	+	.023	1.25
Firemen's helpers ..	24	19	10.08	10.56	1.769	1.792	.175	.166	—	.007	.40
Foremen	44	43	10.41	10.47	2.489	2.543	.239	.243	+	.058	2.33
Grinders	45	51	11.24	11.71	1.639	1.67	.146	.143	+	.032	1.95
Helpers	264	42	10.68	10.71	1.461	1.288	.137	.120	—	.175	11.98
Inspectors, female ..	3	5	10	10	1.00	1.00	.100	.100	.....	.....	.....
Joggers	2	3	10	10	1.25	1.717	.125	.172	+	.467	37.33
Laborers	1,404	1,228	10.35	10.21	1.543	1.529	.149	.149	—	.014	.91
Loaders	19	10	.....	.....	1.582	.....	.153	.....	.....	.....	.....
Loftmen	15	15	9.8	9.27	1.96	1.817	.199	.196	—	.133	6.81
Machine tenders	251	251	11.70	10.61	2.184	2.353	.187	.222	+	.169	7.74
Machine tenders, female	49	45	10	10	.794	.85	.079	.085	+	.066	7.05
Machine tenders' helpers	57	135	10	11.32	1.484	1.48	.148	.149	—	.004	.37
Machinists	80	21	10	10	2.487	2.414	.249	.241	—	.073	2.94
Machinists' helpers ..	3	10	.....	.....	1.50	.....	.150	.....	.....	.....	.....
Masons	2	1	10	10	2.25	2.50	.225	.250	+	.25	11.11
Millwrights	53	62	10	10	2.556	2.572	.256	.267	+	.016	.63
Millwrights' helpers ..	6	2	10	10	2.042	2.125	.204	.213	+	.083	4.11
Oilers	19	26	11.47	11.19	1.426	1.542	.124	.137	+	.116	8.13
Packers	14	11	10	10	1.669	1.662	.167	.166	—	.007	.42
Painters	1	3	10	10	2.00	1.917	.200	.192	—	.083	4.15
Pasters, female	2	10	.....	.....	.50	.....	.05	.180	.....	.....	.....
Pipefitters	8	14	10	10	2.063	1.804	.206	.154	—	.259	12.55
Porters	15	4	10	10	1.44	1.587	.144	.154	+	.097	6.90
Press feeders	13	20	10.62	12	1.577	2.10	.149	.175	+	.523	33.16
Printers	2	2	10	10	1.825	2.425	.183	.243	+	.600	32.33
Printers, female .....	.....	1	.....	.....	.....	.125	.125	.....	.....	.....	.....
Ragcutters	6	10	10.33	10.38	1.845	1.629	.179	.157	—	.218	1.17
Ragcutters, female	398	347	9.64	9.68	.916	.902	.096	.093	—	.014	1.53
Ragcutters' helpers ..	4	4	11	11	1.75	1.75	.159	.159	.....	.....	.....
Ragsorters	21	6	10	10	1.464	1.468	.146	.147	+	.004	.27
Rag-room men	1	10	.....	.....	2.00	.....	.200	.....	.....	.....	.....
Ragwashers	16	2	10.75	12	1.585	1.63	.147	.163	+	.045	2.81
Rewinders	4	8	10	10.5	1.375	1.83	.138	.177	+	.435	35.35
Rulers	1	2	10	10	2.25	2.875	.225	.288	—	.475	14.63
Rulers' helpers	5	3	10	10	1.333	1.33	.133	.133	.....	.....	.....
Rulers' helpers, female	2	2	10	10	1.90	1.00	.10	.10	.....	.....	.....
Sawyers	18	13	10	10	2.118	1.691	.212	.169	—	.427	20.16
Scalers	7	9	10	10	1.544	1.666	.154	.167	+	.122	7.90
Scalers, female	6	4	10	10	.892	.913	.089	.091	+	.021	2.38
Screen men	10	4	11.3	11	1.35	1.445	.121	.131	+	.096	7.04
Shippers	2	11	10	10.00	1.75	1.81	.175	.179	+	.06	3.43
Sizemakers	11	20	10	10	1.709	1.668	.171	.169	—	.021	1.23
Skinners	46	62	11.11	10.15	1.121	1.211	.101	.119	+	.090	8.08
Splitters	5	5	10	10	1.44	1.42	.144	.142	—	.02	1.39
Stockkeepers	2	4	12	12	1.75	1.05	.146	.138	—	.10	5.71
Sweepers	1	6	10	10	1.40	1.275	.140	.128	—	.125	8.93
Teamsters	14	19	10	10	1.643	1.664	.164	.166	+	.021	1.23
Testers	2	2	12	12	.....	1.865	.155	.....	.....	.....	.....
Tiers	6	3	11.33	10	1.183	1.75	.104	.175	+	.667	5.64
Timekeepers .....	.....	1	.....	.....	.....	1.50	.150	.....	.....	.....	.....
Trimmers	6	9	10	10	1.858	1.911	.186	.191	+	.053	2.85
Truckers	2	10	12	10	1.65	1.50	.138	.150	—	.15	9.10
Watchmen	15	18	11.67	11.61	1.723	1.197	.148	.101	—	.566	.....
Weighers	1	10	.....	.....	1.50	.....	.150	.....	.....	.....	.....
Wipers	11	9	10	.....	1.25	.....	.125	.....	.....	.....	.....
Woodpilers	10	9	10	10	1.415	1.00	.143	.160	+	.185	13.06
Yardmen	18	42	10	10	1.428	1.59	.143	.159	+	.162	11.33
Total and av.	3,814	3,700	10.45	10.35	\$1.549	\$1.577	\$.148	\$.152	+	\$.028	1.81

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58.	2		2		4		\$.50		\$.50		\$.50	
.58 to .66.	2	3	5		7	3	.65	.65	.65	.65	.65	.65
.67 to .74.			11	11	11	11			.678	.67	.678	.67
.75 to .83.	45	52	252	225	297	277	.75	.762	.774	.764	.771	.763
.84 to .91.	11	4	111	144	122	143	.863	.865	.856	.858	.857	.858
.92 to .99.		2		5		7		.98		.95		.959
1.00 to 1.08.	94	74	99	127	193	201	1.00	1.00	1.00	1.003	1.00	1.002
1.09 to 1.16.	46	32	91	31	137	63	1.107	1.122	1.104	1.119	1.105	1.120
1.17 to 1.24.	12	6		9	12	15	1.196	1.20		1.20	1.196	1.199
1.25 to 1.35.	127	139	47	53	174	191	1.25	1.251	1.25	1.253	1.25	1.253
1.34 to 1.41.	224	116		6	224	122	1.371	1.375		1.35	1.371	1.374
1.41 to 1.49.	133	46		1	133	47	1.453	1.448		1.45	1.453	1.45
1.50 to 1.58.	1,019	1,113	14	6	1,033	1,119	1.50	1.50	1.517	1.517	1.50	1.50
1.59 to 1.66.	303	285	1		304	285	1.616	1.628	1.60		1.616	1.628
1.67 to 1.74.	187	95		1	187	96	1.70	1.701		1.70	1.70	1.701
1.75 to 1.83.	320	434			320	434	1.765	1.754			1.765	1.754
1.84 to 1.91.	112	35			112	35	1.859	1.869			1.859	1.869
1.92 to 1.99.	13	32			13	32	1.927	1.944			1.927	1.944
2.00 to 2.08.	170	214	1		171	214	2.004	2.002	2.00		2.003	2.002
2.09 to 2.16.	20	51			20	51	2.119	2.113			2.119	2.113
2.17 to 2.24.	18	10			18	10	2.186	2.203			2.186	2.203
2.25 to 2.33.	49	56			49	56	2.255	2.255			2.255	2.255
2.34 to 2.41.	13	13			13	13	2.40	2.387			2.40	2.387
2.42 to 2.49.	4	3			4	3	2.475	2.48			2.475	2.48
2.50 to 2.58.	94	77			94	77	2.56	2.503			2.56	2.503
2.59 to 2.66.	6	13			6	13	2.60	2.604			2.60	2.604
2.67 to 2.74.	3	2			3	2	2.67	2.67			2.67	2.67
2.75 to 2.83.	20	28			20	28	2.75	2.75			2.75	2.75
2.84 to 2.91.		1				1		2.88				2.88
3.00 to 3.08.	66	51			66	51	3.00	3.00			3.00	3.00
3.09 to 3.16.	2	2			2	2	3.10	3.10			3.10	3.10
3.17 to 3.24.	1				1		3.20				3.20	
3.25 to 3.33.	10	18			10	18	3.29	3.277			3.29	3.277
3.34 to 3.41.	4	4			4	4	3.40	3.40			3.40	3.40
3.42 to 3.49.		9				9		3.45				3.45
3.50 to 3.58.	28	29			28	29	3.503	3.50			3.503	3.50
3.59 to 3.66.	6	4			6	4	3.60	3.60			3.60	3.60
3.75 to 3.83.	7	5			7	5	3.75	3.75			3.75	3.75
3.84 to 3.91.	3	8			3	8	3.90	3.90			3.90	3.90
4.00 to 4.08.	3	4			3	4	4.00	4.00			4.00	4.00
4.17 to 4.24.	1	1			1	1	4.17	4.17			4.17	4.17
4.25 to 4.33.		1				1		4.25				4.25
4.59 to 4.66.	1	1			1	1	4.66	4.66			4.66	4.66
5.00 to 5.08.	1	1			1	1	5.00	5.00			5.00	5.00
5.34 to 5.41.		1				1		5.40				5.40
5.50 to 5.58.		1				1		5.58				5.58
7.00 to 7.08.		1				1		7.00				7.00
Total and average	3,130	3,076	634	624	3,814	3,700	\$1.074	\$1.711	\$.922	\$.914	\$1.549	\$1.577

Remarks.—The manufacture of paper and pulp has for years been one of the most important industries of the state. The census of 1900 gave Wisconsin fifth rank among the states in this industry. In that year Wisconsin produced over 8 per cent. of the total product of the United States. The reports for 1904

and 1905 show a continued growth of the industry in this state. There was an increase for 1905 in nearly every item of investment, the total capital invested showing a gain of 5 per cent.; about 3 per cent. more persons were employed, while there was an increase of 6 per cent. in the number of days of operation, of from 1 per cent. to 6 per cent. in the materials used and the wages and salaries paid, and of 3 per cent. in the output. The number of days of operation, 490 in 1904 and 521 in 1905, indicates that both day and night shifts were employed. Labor's share of the industry product was large—62 per cent. in 1904 and 61 per cent. in 1905. Employment was very regular each year. The hours of labor were exceptionally long, averaging 10.45 per day in 1904 and 10.35 in 1905. About $\frac{1}{6}$ of the total number of employees were females. They were employed chiefly in occupations peculiar to the industry. Their hours of labor were much shorter than those of male operatives, averaging 9.76 per day in 1904 and 9.78 in 1905. Their average daily wages were somewhat higher than the average for women in all industries. Men's daily wages, on the contrary, were much lower in this industry than the average.

38. SADDLERY—8 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	3	3		
Number of male partners.....	7	5	— 2	28.57
Number of female partners.....	1	1		
Total number of partners.....	8	6	— 2	25.00
Number of corporations.....	5	5		
Number of male stockholders.....	13	13		
Number of female stockholders.....	5	5		
Total number of stockholders.....	23	23		
Total number of partners and stockholders.....	31	29	— 2	3.45
Smallest number of persons employed.....	275	316	+ 41	14.91
Greatest number of persons employed.....	396	370	— 26	6.57
Average number of persons employed.....	344	344		
Average days in operation.....	269	268	— 1	0.33

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$5,650 00	\$8,860 00	+ \$3,200 00	56.64
Buildings and fixtures	18,708 00	31,100 00	+ 2,392 00	12.79
Machinery, etc.	23,138 28	24,311 49	+ 1,173 21	5.07
Cash and other capital.....	122,323 28	142,441 71	+ 20,118 43	16.45
Total	\$109,819 56	\$196,708 20	+ \$86,883 64	15.88

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$394,337 98	\$404,673 02	+ \$110,334 04	28.71
Other material used	103,419 06	127,356 80	+ 23,936 80	23.15
Wages	142,562 10	152,194 11	+ 9,539 01	6.71
Salaries	36,794 76	36,354 00	— 440 76	1.30
Profit and minor expenses....	88,149 75	88,389 40	+ 239 74	0.27
Goods made and work done..	\$755,263 59	\$808,895 43	+ \$143,631 83	19.02

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$755,263 59	\$808,895 43
Value of stock used and other material consumed in production	487,756 98	622,027 89
Industry product (gross product less value of stock and material)	267,506 61	186,867 60
Wages and salaries (Labor's direct share of product)	179,356 86	189,478 11
Profit and minor expense fund (Industry product less wages)	88,149 75	88,389 40
Percentage of industry product paid in wages.....	Per cent. 67.05	Per cent. 68.08
Percentage of industry product devoted to profit and minor expenses	32.95	31.92

TABLE IV—AVERAGE CAPITAL ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$493 66	\$573 15	+ \$79 49	15.90
Average product per employee.....	2,195 53	2,613 08	+ 417 55	19.46
Average yearly earnings.....	414 42	442 22	+ 27 80	6.71

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	364	343	91.92	94.08	8.08	5.94
February	368	364	92.93	98.33	7.07	1.67
March	396	357	100.—	96.49	.....	3.51
April	375	355	94.70	95.95	5.30	4.05
May	382	340	96.48	91.89	3.54	8.11
June	337	329	85.10	88.92	14.90	11.08
July	318	321	80.30	86.76	19.70	13.24
August	275	316	69.44	85.41	30.56	14.59
September	291	339	73.48	91.68	26.52	8.32
October	332	336	83.84	90.31	16.16	9.19
November	340	350	85.86	94.60	14.14	5.40
December	350	370	88.88	100.—	11.62	.....
Average	344	344	86.87	92.97	13.13	7.03

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, -, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Boot makers	1	10			\$1.50		\$1.50			
Collar makers	12	4 10	10		2.289	\$1.875	.227	\$1.188	— .894	17.37
Cutters	13	5 10	10		2.808	2.90	.281	.290	+ .092	3.24
Engineers	1	1 10	10		2.17	2.17	.217	.217		
Firemen		1	10			1.67		.167		
Fitters		12	10			2.284		.228		
Foremen	3	10			3.03		.303			
Harness makers	134	115 10	10		1.896	2.266	.190	.227	+ .369	19.46
Harness makers, fe- male	1	10 10	10		1.170	1.625	.117	.163	+ .455	38.89
Helpers	15	15 10	10		1.055	1.055	.106	.106		
Helpers, female		5	10			.93		.093		
Laborers	23	24 10	10		.907	.869	.061	.067	+ .062	7.68
Machine operators ..	8	10 10	10		2.312	2.50	.231	.250	+ .185	8.10
Machine operators, fe- male	11	3 10	10		1.346	.937	.135	.094	— .409	30.39
Machinists	3	6 10	10		2.39	2.237	.239	.224	— .153	6.40
Net makers	11	57 10	10		1.795	1.124	.180	.112	— .671	37.38
Net makers, female..	68	68 10	10		.925	.935	.093	.094	+ .01	1.08
Pad makers, female..	4	10			.83		.083			
Piece workers	11	7 10	10		1.907	1.903	.191	.190	— .014	.061
Piece workers, female	65	25 10	10		.682	.752	.068	.075	+ .07	10.26
Pressmen	1	4 10	10		1.83	2.062	.183	.206	+ .232	12.68
Shipping clerks	2	2 10	10		1.795	1.795	.180	.180		
Spinners	6	5 10	10		1.667	1.72	.167	.172	+ .053	3.13
Total and average	393	379 10	10		\$1.449	\$1.569	\$1.145	\$1.157	+ \$.120	8.28

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages (inclusive)	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58.	9	9	11		20	9	\$.52	\$.52	\$.50		\$.52	\$.52
.50 to .66.		6	35	12	33	13	.50	.65	.65	.65	.65	.63
.67 to .74.	6	16	2	8	8	24	.67	.69	.67	.67	.67	.68
.75 to .83.	13	5	50	43	72	43	.79	.83	.82	.82	.81	.82
.84 to .91.		2				2		.90				.90
.92 to .99.		4		1		5		.92		.92		.92
1.00 to 1.06.	13	10	23	13	36	23	1.00	1.00	1.00	1.00	1.00	1.00
1.17 to 1.24.	15	2	11	1	26	3	1.17	1.17	1.17	1.17	1.17	1.17
1.25 to 1.33.	13	29	6	18	19	46	1.29	1.27	1.33	1.26	1.30	1.37
1.34 to 1.41.		1				1		1.40				1.40
1.42 to 1.49.		5				3		1.42				1.42
1.50 to 1.58.	22	25	4	5	26	30	1.50	1.50	1.50	1.50	1.50	1.50
1.59 to 1.66.	5	2			5	2	1.65	1.65			1.65	1.65
1.67 to 1.74.	28	9			29	9	1.67	1.67			1.67	1.67
1.75 to 1.83.	13	19		5	13	24	1.81	1.77		1.75	1.81	1.77
1.84 to 1.91.		4				4		1.85				1.85
1.92 to 1.99.	1	1			1	1	1.92	1.92			1.92	1.92
2.00 to 2.06.	33	36			33	36	2.00	2.00			2.00	2.00
2.17 to 2.24.	5	2			5	2	2.18	2.17			2.18	2.17
2.25 to 2.33.	8	17			8	17	2.25	2.25			2.25	2.25
2.50 to 2.58.	36	26			26	26	2.50	2.50			2.50	2.50
2.67 to 2.74.		1				1		2.67				2.67
2.75 to 2.83.	6	16			6	16	2.75	2.75			2.75	2.75
3.00 to 3.08.	8	14			8	14	3.00	3.00			3.00	3.00
3.25 to 3.33.	5	5			5	5	3.33	3.33			3.33	3.33
3.50 to 3.58.	1				1		3.50				3.50	
3.67 to 3.74.	1				1		3.67				3.67	
3.75 to 3.83.		2				2		3.75				3.75
4.00 to 4.06.		1				1		4.00				4.00
4.17 to 4.24.	2	2			2	2	4.17	4.17			4.17	4.17
5.00 to 5.08.	1				1		5.00				5.00	
Total and average	244	268	149	111	393	379	\$1.81	\$1.81	\$.84	\$.97	\$1.44	\$1.59

Remarks.—Although Wisconsin ranks first among the states in the production of harness leather only a few large harness manufacturing establishments are located in the state. There are however a great many small shops, engaged chiefly in doing custom work and repairing. The number of all establishments in the state in 1900 was 525. The foregoing tables are based upon returns received from eight of the larger firms. The data do not necessarily indicate the actual state of the industry in Wisconsin. For the establishments which reported there was an increase in 1905 of 57 per cent. in the capital invested in land, and of 13 per cent. in the amount invested in buildings, indicating a greater permanency of the investment. The total capital invested showed an increase of 16 per cent. There was

also an increase of from 7 to 27 per cent. in the materials used, the total wages paid, and the output. Labor's share of the industry product was large—67 per cent. in 1904 and 68 per cent. in 1905. Employment was somewhat irregular each year, summer being the season of the least activity. In 1904 about one-third of the total number of employees were women. Their number decreased by about 25 per cent. in 1905. Their daily wages increased by about 15 per cent. With but few exceptions they were employed in occupations peculiar to the industry. All worked 10 hours per day.

39. SASH, DOORS, ETC.—38 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms.....	11	11	.....	.....
Number of male partners.....	16	17	+ 1	6.25
Number of female partners.....	.....	.....	.....	.....
Total number of partners.....	16	17	+ 1	6.25
Number of corporations.....	27	27	.....	.....
Number of male stockholders.....	118	126	+ 8	6.78
Number of female stockholders.....	26	23	— 3	11.54
Total number of stockholders.....	144	149	+ 5	3.47
Total number of partners and stockholders..	160	166	+ 6	3.75
Smallest number of persons employed.....	2,039	2,065	+ 46	2.26
Greatest number of persons employed.....	2,400	2,553	+ 153	6.38
Average number of persons employed.....	2,281	2,429	+ 148	6.49
Average days in operation	299	291	+ 2	0.69

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$387,471 59	\$394,044 89	+ \$6,573 30	1.70
Buildings and fixtures	496,076 26	501,367 26	+ 5,291 01	1.06
Machinery, etc.	519,127 52	522,806 14	+ 3,678 62	0.71
Cash and other capital.....	1,865,421 75	1,950,772 19	+ 85,350 44	4.58
Total	\$3,268,097 11	\$3,368,980 48	+ \$100,883 37	3.09

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$2,291,344 80	\$2,605,798 54	+ \$404,449 24	17.65
Other material used	109,207 10	190,033 43	+ 80,826 33	74.01
Wages	994,789 07	1,059,445 58	+ 64,656 46	6.50
Salaries	227,619 67	228,167 65	+ 547 98	0.24
Profit and minor expense.....	1,031,612 87	1,097,645 72	+ 66,032 85	6.40
Goods made and work done..	\$4,654,573 01	\$5,271,085 87	+ \$616,512 86	13.25

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$4,654,573 01	\$5,271,085 87
Value of stock and other material consumed in production	2,400,551 40	2,885,826 97
Industry product (gross production less value of stock and material)	2,254,021 61	2,385,258 90
Wages and salaries (Labor's direct share of product)	1,222,408 74	1,287,613 18
Profit and minor expense fund (Industry product less wages)	1,031,612 87	1,097,645 72
Percentage of industry product paid in wages.....	Per cent. 54.23	Per cent. 58.98
Percentage of industry product devoted to profit and minor expenses	45.77	46.02

TABLE IV. AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,432 75	\$1,386 98	— 345 77	3.19
Average product per employee	2,040 58	2,170 06	+ 129 48	6.35
Average yearly earnings	436 12	436 17	+ 0.05	0.01

TABLE V. RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	2,039	2,085	84.96	81.67	15.04	18.33
February	2,142	2,291	89.25	89.74	10.75	10.26
March	2,303	2,374	95.96	92.99	4.04	7.01
April	2,273	2,467	94.92	96.63	5.08	3.37
May	2,395	2,393	95.63	93.93	4.37	6.07
June	2,274	2,468	94.75	96.67	5.25	3.33
July	2,254	2,464	93.92	96.51	6.08	3.49
August	2,301	2,455	95.88	96.16	4.12	3.84
September	2,387	2,543	96.23	99.61	0.77	0.39
October	2,400	2,533	100.00	100.00		
November	2,379	2,534	99.12	99.26	0.88	0.74
December	2,323	2,514	96.79	98.47	3.21	1.53
Average	2,381	2,429	95.04	95.14	4.96	4.86

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages p. r hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Bench hands	13	13	10	10	\$2.236	\$2.269	\$.224	\$.227	+ \$.031	1.39
Blacksmiths	1	2	10	10	2.00	1.875	.30	.138	— .125	6.25
Bookkeepers		1		10		1.50		.15		
Boxnailers		2		10		1.50		.15		
Boys	13	21	10	10	.746	.888	.075	.080	+ .142	19.03
Cabinetmakers	61	49	10	10	2.219	2.179	.222	.218	— .040	1.80
Carloaders	3	3	10	10	1.80	1.50	.18	.15	— .30	16.07
Carpenters	306	371	9.90	9.89	2.156	2.109	.218	.219	+ .013	.60
Carvers	3	4	10	10	2.50	2.463	.25	.246	— .037	1.48
Doormakers		21		10		1.737		.174		
Draftsmen	1		10		2.56		2.56			
Elevator men		1		10		1.37		.137		
Engineers	16	15	10.19	10.80	2.264	2.331	.222	.229	+ .067	2.96
Filers		4		10		1.938		.194		
Finishers	7	2	10	10	2.986	2.375	.297	.238	— .611	20.46
Firemen	26	23	10.35	10	1.636	1.577	.158	.158	— .059	3.61
Foremen	33	36	10	10	2.783	2.913	.278	.297	+ .13	4.67
Frame makers	4		10		2.063		.206			
Glaziers	18	17	10	10	1.966	1.859	.197	.186	— .107	5.44
Graders	4		10		1.50		.15			
Helpers	413	465	10	10	.902	1.029	.09	.103	+ .127	14.08
Helpers, female		3		10		1.00		.10		
Laborers	707	748	9.98	9.98	1.406	1.427	.141	.143	+ .019	1.32
Laborers, female		4		10		.85		.085		
Lumber pilers		8		10		1.50		.15		
Lumber sorters	10	11	10	10	1.80	1.832	.18	.183	+ .032	1.78
Machine tenders	530	479	10	9.99	1.773	1.777	.177	.178	+ .004	0.23
Machinists	91	129	10	10	2.106	2.155	.211	.216	+ .049	2.33
Masons	5	10	9.20	9	3.69	3.42	.391	.38	— .18	5.00
Mill hands	17	2	9.18	10	2.025	2.126	.221	.213	+ .10	4.94
Molding makers	2	2	10	10	2.00	2.00	.20	.20		
Nailers	1		10		1.50		.15			
Painters	34	46	10	9.85	1.691	1.752	.169	.178	+ .051	3.61
Plasterers		6		9		3.60		.40		
Rippers		4		10		1.78		.178		
Sash makers	3	22	10	10	2.217	1.501	.222	.15	— .716	32.30
Sawyers	73	8	10	10	1.512	1.965	.151	.197	+ .453	29.96
Sawyers' helpers		3		10		1.333		.133		
Scalers	2	3	10	10	2.667	2.063	.267	.208	— .584	21.90
Shipping clerks	14	12	10	10	2.034	2.142	.203	.214	+ .108	5.31
Sweepers		1		10		1.16		.116		
Teamsters	41	37	9.98	10.05	1.826	1.699	.183	.166	— .157	8.60
Watchmen	22	25	11.05	10.88	1.597	1.601	.145	.147	+ .004	.25
Welghers		1		10		2.00		.20		
Wood turners	9	10	10	9.90	2.094	2.08	.209	.21	— .014	.67
Yardmen	20	9	10	10	1.528	1.723	.153	.172	+ .195	12.76
Total and av.	2,498	2,633	9.99	9.98	\$1.611	\$1.645	\$.161	\$.165	+ \$.034	2.11

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive.)	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1901		1904		1904		1901		1904		1904	
	1901	1905	1904	1905	1904	1905	1901	1905	1904	1905	1904	1905
\$.34 to \$.41..	2				2		\$.40				\$.40	
.50 to .58..	69	22			69	22	.514				.514	
.59 to .66..	71	19			71	19	.628				.628	
.67 to .74..	4	22			4	22	.70				.70	
.75 to .83..	104	139		3	104	142	.78				.78	
.84 to .91..	65	54			65	54	.865				.865	
.92 to .99..	2	8			2	8	.95				.95	
1.00 to 1.08..	100	137		3	100	140	1.00		1.00		1.00	
1.08 to 1.16..	32	12		1	32	13	1.122		1.10		1.122	
1.17 to 1.24..	4	4			4	4	1.20				1.20	
1.25 to 1.31..	135	172			135	172	1.275				1.257	
1.34 to 1.41..	288	129			288	129	1.356				1.355	
1.42 to 1.49..	3	112			3	112	1.45				1.45	
1.50 to 1.56..	432	568			432	568	1.503				1.503	
1.59 to 1.66..	122	115			122	115	1.631				1.631	
1.67 to 1.74..	11	35			11	35	1.697				1.697	
1.75 to 1.98..	286	312			286	312	1.755				1.755	
1.84 to 1.91..	120	75			120	75	1.866				1.866	
1.92 to 1.99..		8				8						
2.00 to 2.08..	234	237			234	237	2.00				2.00	
2.09 to 2.16..	20	14			20	14	2.128				2.128	
2.17 to 2.24..	5	32			5	32	2.20				2.20	
2.25 to 2.33..	166	133			166	133	2.265				2.265	
2.34 to 2.41..	17	19			17	19	2.37				2.37	
2.42 to 2.49..	3	3			3	3	2.453				2.47	
2.50 to 2.58..	108	131			108	131	2.501				2.501	
2.59 to 2.66..	2	3			2	3	2.625				2.625	
2.67 to 2.74..	8	3			8	3	2.70				2.70	
2.75 to 2.83..	31	32			31	32	2.75				2.75	
2.84 to 2.91..		2				2						
3.00 to 3.08..	27	44			27	44	3.00				3.00	
3.09 to 3.16..	1	7			1	7	3.10				3.10	
3.25 to 3.33..	8	2			8	2	3.30				3.30	
3.50 to 3.58..	2	0			2	0	3.50				3.50	
3.59 to 3.66..	5	0			5	0	3.60				3.60	
3.75 to 3.83..	1	1			1	1	3.75				3.75	
3.84 to 3.91..	6	5			6	5	3.85				3.85	
4.00 to 4.08..	4	5			4	5	4.00				4.00	
4.50 to 4.58..		2				2						
6.00 to 6.08..		1				1						
Total and av.	2,498	2,626		7	2,498	2,633	\$1.611	\$1.647		\$1.614	\$1.611	\$1.615

Remarks.—The manufacture of sash, doors, and other planing mill products is one of the twelve most important industries of the state. It is dependent directly upon the lumber industry. The census of 1900 reported 123 establishments in Wisconsin. The foregoing tables are based upon reports from 38 of these. A marked gain for 1905 is indicated. There was an increase of 3 per cent. in the total capital invested, all items of investment having increased; one of 20 per cent. in the materials used, of 6 per cent. in the average number of persons employed and the

value of the total wages and salaries paid, and of 13 per cent. in the output. Employment was moderately uniform, the only months of considerable unemployment being January and February of each year. No women were employed in this industry in 1904, and but seven in 1905. They worked only in accessory occupations. Their daily wages were slightly above the average for all industries. The daily wages of men, on the contrary, were considerably lower than the average.

40. SHEET METAL—21 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905	Amount.	Per cent
Number of private firms	11	11	—	—
Number of male partners	20	19	— 1	5.—
Number of female partners	—	—	—	—
Total number of partners	20	19	— 1	5.—
Number of corporations	10	10	—	—
Number of male stockholders	78	73	— 5	3.95
Number of female stockholders	5	4	— 1	20.—
Total number of stockholders	81	77	— 4	4.94
Total number of partners and stockholders	101	96	— 5	4.95
Smallest number of persons employed	2,059	2,121	+ 65	3.16
Greatest number of persons employed	2,305	2,427	+ 122	5.29
Average number of persons employed	2,217	2,326	+ 109	4.92
Average days in operation	291	310	+ 19	0.53

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$191,215 00	\$211,200 00	+ \$19,985 00	10.45
Buildings and fixtures	379,224 66	406,704 66	+ 26,480 00	6.98
Machinery, etc.	471,729 04	492,229 07	+ 20,500 03	4.35
Cash and other capital	1,773,183 37	2,175,755 81	+ 402,572 44	22.70
Total	\$2,815,352 07	\$3,284,889 54	+ \$469,537 47	16.68

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used ¹ wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$2,534,487 70	\$2,683,890 17	+ \$149,392 47	5.89
Other material used	264,394 73	309,305 34	+ 44,910 61	16.99
Wages	882,803 69	894,652 06	+ 61,848 37	7.43
Salaries	223,646 78	228,187 75	+ 4,540 97	1.94
Profit and minor expenses ...	437,009 00	451,818 34	+ 14,749 34	3.37
Goods made and work done .	4,302,401 90	4,577,843 66	+ 275,441 76	6.40 .

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$4,302,401 90	\$4,577,843 66
Value of stock used and material consumed in pro- duction	2,798,882 43	2,993,185 71
Industry product (gross production less value of stock and material)	1,503,519 47	1,584,658 15
Wages and salaries (Labor's direct share of pro- duct)	1,066,450 47	1,132,839 81
Profit and minor expense fund (Industry product less wages)	437,069 00	451,818 34
	Per cent.	Per cent.
Percentage of Industry product paid in wages	70.98	71.49
Percentage of Industry product devoted to profit and minor expenses	29.07	28.51

TABLE IV--AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904	1905.	Amount.	Per cent.
Average capital per employee	\$1,209 89	\$1,412 25	+ \$142 36	11.21
Average product per employee	1,940 64	1,968 12	+ 27 48	1.42
Average yearly earnings	375 64	384 63	+ 8 99	2.39

TABLE V--RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905	1904.	1905.	1904.	1905.
January	2,056	2,261	89.20	88.16	10.80	6.84
February	2,211	2,368	95.92	97.57	4.08	2.43
March	2,287	2,416	99.22	99.55	0.78	0.45
April	2,238	2,390	97.09	98.06	2.91	1.94
May	2,257	2,274	97.92	98.70	2.08	6.30
June	2,202	2,238	95.53	92.21	4.47	7.79
July	2,083	2,121	90.37	27.39	9.63	12.61
August	2,306	2,306	95.71	95.10	4.29	4.90
September	2,257	2,343	97.92	96.54	2.08	3.45
October	2,806	2,366	100.—	97.49	.....	2.51
November	2,806	2,406	100.—	99.14	.....	0.86
December	2,196	2,427	95.27	100.—	4.73	.....
Average	2,217	2,326	96.18	96.84	3.82	4.16

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1901	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Apprentices	10	22	8.40	8.73	\$1.31	\$1.45	\$.156	\$.166	+ .14	10.09	
Blacksmiths	2	7	10.00	9.14	2.50	2.486	.25	.272	— .014	0.56	
Blacksmiths' helpers	1	1	10.00	10.00	1.65	1.65	.165	.165			
Boiler makers	9	9	9.44	9.44	2.528	2.528	.268	.268			
Boiler makers' helpers	5	5	10.00	10.00	1.32	1.32	.152	.152			
Boys	4	4	8.25	8.25	.963	.963	.117	.117			
Carpenters	11	9	10.00	10.00	2.005	2.059	.201	.206	+ .054	2.70	
Cornice makers	10	17	8.20	8.00	3.08	2.921	.376	.365	— .059	1.92	
Die makers	1	1	10.00	10.00	3.00	3.00	.30	.30			
Electricians	1	1	10.00	10.00	2.25	2.50	.225	.25	+ .25	11.11	
Enamelers	70	57	10.00	10.00	1.715	1.809	.172	.181	+ .094	5.46	
Enamelers, female	116	112	10.00	10.00	.677	.665	.067	.067	+ .002	1.23	
Enamelers' helpers	26	62	10.00	10.00	1.346	1.993	.135	.186	+ .517	38.41	
Enamelers' helpers, female	35	45	10.00	10.00	.85	.833	.085	.083	— .017	2.00	
Engineers	5	6	10.00	10.00	2.75	2.638	.275	.264	— .112	4.07	
Finishers	20	10	10.00	10.00	1.00	1.00	.10	.10			
Firemen	8	6	10.00	10.00	2.063	2.063	.206	.207	+ .015	0.72	
Foremen	27	20	10.00	9.90	2.934	2.671	.29	.27	— .233	8.02	
Galvanizers	2	6	10.00	10.00	1.875	1.792	.188	.179	— .083	4.43	
Galvanizers' helpers	27	26	10.00	10.00	1.50	1.50	.15	.15			
Helpers	123	40	9.27	8.93	1.533	1.466	.17	.161	— .127	7.97	
Helpers, female	21	325	10.00	10.00	.691	.665	.069	.067	— .026	3.76	
Iron workers	3	2	10.00	10.00	2.50	2.00	.25	.20	— .50	20.00	
Japanners	4	4	10.00	10.00	1.625	1.75	.163	.175	+ .125	7.87	
Japanners' helpers	3	3	10.00	10.00	1.25	1.25	.125	.125			
Japanners' helpers, female	9	12	10.00	10.00	.833	.938	.083	.094	+ .105	12.60	
Laborers	950	966	10.00	10.00	9.99	1.183	1.272	.118	.128	+ .089	7.52
Laborers, female	323	11	10.00	10.00	.672	.541	.069	.054	— .131	19.49	
Machine operators	50	83	10.00	10.00	1.34	1.24	.134	.124	— .10	7.41	
Machinists	74	78	10.00	10.00	2.635	2.581	.264	.258	— .054	2.05	
Machinists' helpers	9	8	10.00	10.00	1.361	1.519	.136	.152	+ .158	11.61	
Molders	31	31	10.00	10.00	2.255	2.194	.226	.219	— .061	2.71	
Packers	2	2	10.00	10.00	1.75	1.75	.175	.175			
Painters	1	1	10.00	10.00	2.00	2.00	.20	.20			
Piece workers	6	3	10.00	10.00	3.50	3.50	.35	.35			
Platers	2	2	10.00	10.00	3.50	3.50	.35	.35			
Polishers	3	3	10.00	10.00	2.583	2.583	.253	.253			
Press hands	102	127	10.00	10.00	1.404	1.382	.14	.138	— .022	1.57	
Repairers	3	3	10.00	10.00	1.557	1.557	.155	.155			
Rivet heaters	7	7	10.00	10.00	1.179	1.179	.118	.118			
Roofers	5	3	10.00	10.00	2.602	2.917	.260	.292	+ .225	8.36	
Roofers' helpers	2	2	10.00	10.00	2.00	2.00	.20	.20			
Sheet metal workers	16	13	9.13	8.62	2.672	2.908	.293	.337	+ .236	8.83	
Sheet metal workers' helpers	12	8	10.00	10.00	1.671	1.569	.167	.157	— .109	6.10	
Shipping clerks	65	78	10.00	10.00	1.435	1.444	.144	.144	+ .009	0.63	
Slaters	6	4	8.00	8.00	2.933	3.275	.367	.403	+ .292	9.96	
Solderers' female	67	73	10.00	10.00	.81	.845	.081	.086	+ .035	4.32	
Steamfitters	3	3	10.00	10.00	2.193	2.343	.219	.234	+ .15	6.84	
Tank makers	5	5	10.00	10.00	1.32	1.32	.132	.132			
Teamsters	1	2	8.00	10.00	1.67	1.60	.209	.16	— .07	4.19	
Testers	3	3	10.00	10.00	1.25	1.25	.125	.125			
Tinners	81	92	8.97	9.33	2.396	2.066	.267	.224	— .312	13.04	
Tinners' helpers	76	67	10.00	9.91	1.282	1.188	.128	.12	— .094	7.33	
Tinners' helpers, female	6	12	10.00	10.00	.75	.67	.075	.067	— .08	10.67	
Tool makers	1	1	10.00	10.00	2.50	2.50	.25	.25			
Watchmen	8	8	11.25	11.25	2.00	2.00	.178	.178			
Welders	3	3	10.00	10.00	3.50	3.50	.35	.35			
Total	2,445	2,460	9.91	9.91	\$1.309	\$1.331	\$.131	\$.134	+ \$.003	2.23	

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages (inclusive.)	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.34 to \$.41..	1	2			1	2	\$.40	\$.40			\$.40	\$.40
.42 to .49..			2	2	2	2			\$.45	\$.45	.45	.45
.50 to .56..	25		140	119	171	119	.524		.54	.515	.538	.515
.59 to .66..	22	12	53	94	105	106	.637	.681	.624	.625	.625	.625
.67 to .74..	51	52	100	117	151	169	.634	.673	.687	.684	.686	.681
.75 to .83..	149	196	184	186	333	372	.79	.781	.768	.767	.778	.774
.84 to .91..	20	26	9	5	38	31	.874	.883	.874	.88	.874	.888
.92 to .99..	20	34	18	19	44	53	.92	.929	.92	.924	.92	.927
1.00 to 1.03..	233	138	22	42	255	180	1.044	1.019	1.00	1.00	1.04	1.014
1.09 to 1.16..	16	7			10	7	1.129	1.107			1.129	1.107
1.17 to 1.24..	43	56			43	56	1.178	1.173			1.178	1.173
1.25 to 1.33..	317	328	12	6	329	334	1.275	1.29	1.25	1.25	1.273	1.298
1.34 to 1.41..	61	72			61	72	1.366	1.366			1.366	1.366
1.42 to 1.49..	52	49			52	49	1.427	1.427			1.427	1.427
1.50 to 1.58..	266	268			266	268	1.505	1.503			1.505	1.503
1.59 to 1.66..	59	27			59	27	1.615	1.629			1.615	1.629
1.67 to 1.74..	38	61			38	61	1.673	1.67			1.673	1.67
1.75 to 1.83..	116	173			116	173	1.762	1.756			1.762	1.756
1.84 to 1.91..	4	5			4	5	1.863	1.87			1.863	1.87
1.92 to 1.99..	1	1			1	1	1.92				1.92	
2.00 to 2.06..	116	146			116	146	2.00	2.001			2.00	2.001
2.09 to 2.16..	3	2			3	2	2.117	2.10			2.117	2.10
2.17 to 2.24..	2	2			2	2	2.185	2.185			2.185	2.185
2.25 to 2.33..	45	38			45	38	2.268	2.262			2.268	2.262
2.34 to 2.41..	5	5			5	5	2.335	2.336			2.335	2.336
2.50 to 2.58..	45	60			45	60	2.50	2.50			2.50	2.50
2.59 to 2.66..	14	3			14	6	2.639	2.60			2.639	2.60
2.67 to 2.74..	4	4			4	4	2.67	2.67			2.67	2.67
2.75 to 2.83..	56	41			56	41	2.784	2.773			2.784	2.773
2.84 to 2.91..	8				8		2.875				2.875	
3.00 to 3.06..	41	50			41	50	3.00	3.00			3.00	3.00
3.17 to 3.24..	4	3			4	3	3.20	3.20			3.20	3.20
3.25 to 3.33..	1	1			1	1	3.25	3.25			3.25	3.25
3.34 to 3.41..	5	3			5	3	3.40	3.40			3.40	3.40
3.50 to 3.58..	12	16			12	16	3.50	3.50			3.50	3.50
3.67 to 3.74..		1				1		3.67				3.67
3.75 to 3.83..	1				1		3.80				3.80	
4.00 to 4.06..	6	2			6	2	4.00	4.00			4.00	4.00
4.25 to 4.33..		2				2		4.25				4.25
6.50 to 6.58..		2				2		6.50				6.50
Total ...	1,869	1,900	576	590	2,455	2,490	\$1.488	\$1.527	\$.70	\$.704	\$1.302	1.331

Remarks.—There is a very large number of small and a few large establishments in the state engaged in this industry. Reports from 21 of them indicate a considerable gain for 1905. There was an increase of 17 per cent. in the total capital invested, of 7 per cent. in the average number of days of operation, of 5 per cent. in the number of employees, and of 6 per cent. in the output. Labor's share of the industry product was large each year—71 per cent. Employment was exceptionally uniform. About one-fourth of the total number of employees were women.

The majority of these were employed in subsidiary occupations. A large number however were engaged in work peculiar to the industry. Their hours of labor were uniformly 10 per day. The daily wages of both male and female help were considerably lower than the average for all industries.

41. SHIP AND BOAT BUILDING—5 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number, in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	2	2	.....	.....
Number of male partners	2	2	.....	.....
Number of female partners .....	.....	.....	.....	.....
Total number of partners	2	2	.....	.....
Number of corporations	3	3	.....	.....
Number of male stockholders	22	21	— 1	4.55
Number of female stockholders	1	1	.....	.....
Total number of stockholders	23	22	— 1	4.35
Total number of partners and stockholders	25	24	— 1	4.00
Smallest number of persons employed	213	182	— 31	14.55
Greatest number of persons employed	385	1,067	+ 482	88.39
Average number of persons employed	271	662	+ 291	73.44
Average days in operation	249	237	— 12	4.82

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$778,346 03	\$516,539 08	+ \$261,806 95	4.91
Buildings and fixtures	546,784 07	504,990 04	+ 41,794 03	8.21
Machinery, etc.	365,964 20	407,064 81	+ 41,100 61	9.86
Cash and other capital	281,016 89	200,188 58	+ 80,828 31	5.40
Total	\$1,972,111 79	\$2,100,772 01	+ \$128,660 22	6.98

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Per cent
Raw material used	\$142,992 71	\$230,111 43	+ \$77,128 72	53.94
Other material used	20,247 04	29,811 38	+ 9,564 34	47.24
Wages	224,802 71	384,031 40	+ 159,228 69	70.83
Salaries	24,545 26	25,699 71	+ 1,154 45	4.70
Profit and minor expenses....	70,639 77	112,828 29	+ 42,188 52	59.72
Goods made and work done..	\$483,217 49	\$772,482 21	+ \$289,264 72	59.85

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross production).....	\$483,217 49	\$772,482 21
Value of stock used and material consumed in pro- duction	163,229 75	249,922 81
Industry product (gross production less value of stock and material)	319,987 74	522,559 40
Wages and salaries (Labor's direct share of product)	249,847 97	409,731 11
Profit and minor expense fund (Industry product less wages)	70,639 77	112,828 29
Percentage of industry product paid in wages.....	Per cent. .77.92	Per cent. 78.41
Percentage of industry product devoted to profit and minor expenses	22.08	21.59

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$5,373 60	\$5,186 97	—\$2,186 63	40.69
Average product per employee.....	1,303 47	1,166 89	— 135 58	10.41
Average yearly earnings	605 94	590 11	— 25 83	4.26

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months	Total no. of persons employed in		Percentages of			
			Emp'oyment in		Unemp'oyment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	361	651	61.71	61.01	38.29	38.99
February	300	764	51.28	71.60	48.72	28.40
March	379	1,007	64.79	100.—	35.21	—
April	586	909	100.—	90.82	—	9.18
May	530	875	90.60	82.01	9.40	17.99
June	365	734	62.39	68.79	37.61	31.21
July	275	428	47.01	40.11	52.99	59.89
August	457	182	78.12	17.06	21.88	82.94
September	381	340	65.13	31.87	34.27	68.13
October	248	493	42.39	46.21	57.61	53.79
November	213	638	36.41	59.79	63.59	40.21
December	352	608	60.17	75.73	39.83	24.27
Average	371	662	63.42	62.04	36.58	37.96

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	3	6	10	10	\$1.083	\$1.292	\$1.103	\$1.129	+ \$.209	19.21
Blacksmiths	5	9	9.60	9.78	2.86	2.95	.298	.303	+ .09	3.15
Blacksmiths, helpers	1	4	10	9.50	1.75	1.712	.175	.180	— .038	2.17
Boat builders	2	2	10	10	2.50	2.50	.250	.250	.....	.....
Captains	1	1	10	10	3.25	3.25	.325	.325	.....	.....
Carpenters	156	109	9.07	9.20	2.00	2.506	.287	.279	— .034	1.31
Caulkers	28	28	9.04	9.04	2.714	2.714	.271	.271	.....	.....
Chippers	6	3	10	10	2.791	2.75	.279	.275	— .041	1.47
Countersinkers	1	3	10	10	2.00	1.917	.200	.192	— .088	4.15
Drillers	10	34	10	10	2.10	2.191	.210	.219	+ .091	7.33
Electricians	8	7	10	10	2.917	2.891	.292	.289	— .126	4.32
Engineers	11	16	10	9.88	3.464	3.214	.346	.324	— .250	7.32
Engineers' helpers	5	10	10	10	1.75	1.75	.175	.175	.....	.....
Finishers	2	10	10	10	2.125	2.125	.213	.213	.....	.....
Firemen	4	7	9.50	9.71	2.00	2.00	.211	.206	.....	.....
Fitters	8	24	10	10	2.656	2.708	.266	.271	+ .032	1.95
Foremen	10	13	9.50	9.54	3.46	3.541	.354	.371	+ .031	2.34
Heaters	8	42	10	10	1.489	1.429	.147	.142	— .040	2.73
Helpers	135	28	9.01	9.96	1.683	1.684	.185	.166	— .021	1.26
Holders	14	30	10	10	2.147	2.167	.215	.217	+ .080	.96
Joiners	3	11	10	10	2.917	2.636	.292	.264	— .231	9.63
Laborers	147	283	9.99	9.82	1.701	1.715	.176	.175	— .046	2.61
Machinists	13	26	10	10	2.584	2.913	.258	.291	+ .029	1.04
Machinists' helpers	5	12	10	10	1.70	1.816	.170	.182	+ .116	2.92
Mates	1	1	10	10	2.00	2.00	.200	.200	.....	.....
Painters	33	63	10	10	1.909	1.921	.181	.192	+ .112	6.19
Plumbers	2	10	10	10	2.25	2.25	.225	.225	.....	.....
Punchers	11	11	10	10	2.123	2.123	.212	.212	.....	.....
Riveters	25	66	10	10	2.67	2.781	.267	.278	+ .111	4.16
Rivet heaters	1	2	10	10	3.25	3.126	.325	.313	— .125	3.85
Sawyers	2	2	9	9	2.50	2.26	.278	.250	— .260	10.0
Scrubbers	33	45	10	10	1.394	1.378	.139	.138	+ .016	1.15
Sewers, female	12	12	10	10	1.00	1.00	.100	.100	.....	.....
Storekeepers	2	5	10	10	1.875	1.75	.188	.175	— .125	6.67
Superintendents	3	3	10	9	4.67	4.637	.467	.519	— .003	.06
Teamsters	5	6	10	9.33	2.13	1.968	.213	.211	— .172	8.03
Watchmen	7	7	10	10.57	1.66	1.698	.166	.160	— .033	1.99
Total and av.	673	936	9.57	9.80	\$2.096	\$2.101	\$1.219	.214	+ .005	.24

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904	1905	1904	1905	1904	1905	1904	1905	1904	1905	1904	1905
\$.75 to .83..	2	1			2	1	\$.75	\$.75			\$.75	\$.75
.84 to .91..		1				1		.90				.90
1.00 to 1.03..	7	8		12	7	20	1.00	1.00		1.00	1.00	1.00
1.25 to 1.33..	8	29			8	26	1.25	1.25			1.25	1.25
1.50 to 1.58..	54	88			54	88	1.50	1.50			1.50	1.50
1.59 to 1.66..	106	90			106	90	1.60	1.629			1.60	1.629
1.67 to 1.74..	1				1		1.67				1.67	
1.75 to 1.83..	167	240			167	240	1.753	1.753			1.756	1.753
1.84 to 1.91..		1				1		1.85				1.85
2.00 to 2.08..	59	55			59	55	2.006	2.003			2.006	2.003
2.25 to 2.33..	47	101			47	101	2.25	2.251			2.25	2.251
2.42 to 2.49..	13	8			13	8	2.48	2.48			2.48	2.48
2.50 to 2.58..	32	41			32	41	2.50	2.50			2.50	2.50
2.67 to 2.74..	103				103		2.70				2.70	
2.75 to 2.83..	34	137			34	137	2.751	2.75			2.751	2.75
2.92 to 2.99..		1				1		2.93				2.93
3.00 to 3.08..	13	60			13	60	3.00	3.00			3.00	3.00
3.09 to 3.16..	6	5			6	5	3.15	3.15			3.15	3.15
3.25 to 3.33..	8	11			8	11	3.26	3.257			3.26	3.257
3.34 to 3.41..	2	1			2	1		3.40				3.40
3.50 to 3.58..	2	4			2	4	3.50	3.50			3.50	3.50
3.75 to 3.83..	4	4			4	4	3.762	3.75			3.762	3.75
4.00 to 4.08..	1	3			1	3	4.00	4.00			4.00	4.00
4.17 to 4.24..	1	5			1	5	4.17	4.17			4.17	4.17
4.25 to 4.33..	1				1		4.25				4.25	
4.50 to 4.58..		1				1		4.50				4.50
5.00 to 5.08..	4	2			4	2	5.00	5.00			5.00	5.00
Total and av.	673	924		12	673	936	\$2.096	\$2.115		\$1.00	\$2.09	\$2.101

Remarks.—The building of ships and boats, although one of the smaller industries of the state, is yearly becoming one of greater importance. This is due on the one hand to the demand for the product, resulting from the large number of navigable lakes and streams both within the state and on its borders; and on the other, to the presence in Wisconsin of all the raw materials employed in the industry. An extraordinary gain was experienced in the two years covered by this report. There was an increase in 1905 of 7 per cent. in the total capital invested, of 78 per cent. in the average number of persons employed, of from 5 to 71 per cent. in the materials used and the total wages and salaries paid, and of 60 per cent in the output. The average yearly earnings of employees were about 4 per cent. less, owing chiefly to a decrease of about 5 per cent. in the number of days of operation. Labor's share of the industry product was

large—78 per cent. Employment was very irregular, the average of unemployment being from 37 to 38 per cent. March, April, and May were the months of greatest activity in this industry. The hours of labor were less than the average for all industries; the daily wages, on the contrary, were considerably higher. No women were employed in 1904. In the following year 12 were employed as sewers. Their wages were \$1.00 per day, 10 hours' work.

42. SOAP—6 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	4	4		
Number of male partners	5	5		
Number of female partners	2	2		
Total number of partners	7	7		
Number of corporations	2	2		
Number of male stockholders	13	16	+ 3	23.08
Number of female stockholders	2	3	+ 1	50.00
Total number of stockholders	15	19	+ 4	26.67
Total number of partners and stockholders	22	26	+ 4	18.18
Smallest number of persons employed	76	80	+ 4	5.26
Greatest number of persons employed	87	106	+ 19	21.84
Average number of persons employed	82	88	+ 6	7.32
Average days in operation	291	304	+ 13	4.47

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Per cent
Land	\$10,000 00	\$10,000 00		
Buildings and fixtures	11,000 00	11,000 00		
Machinery, etc.,	35,596 65	37,009 25	+ \$1,423 60	4.00
Cash and other capital	128,762 07	122,111 19	— 6,650 88	5.17
Total	\$185,347 72	\$180,120 44	— \$5,227 28	2.82

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$277,495 64	\$296,658 68	+ \$19,163 04	6.90
Other material used	6,590 00	7,400 00	+ 870 00	13.33
Wages	85,111 79	88,608 60	+ 3,496 81	9.94
Salaries	48,401 11	48,767 13	+ 366 02	0.76
Profit and minor expenses ...	55,543 09	57,690 82	+ 2,147 73	3.87
Goods made and work done .	423,081 63	449,120 23	+ \$26,038 60	6.15

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$423,081 63	\$449,120 23
Value of stock used and material consumed in production	234,025 64	304,058 13
Industry product (gross production less value of stock and material)	139,056 99	145,061 55
Wages and salaries (Labor's direct share of product)	83,512 90	87,379 73
Profit and minor expense fund (industry product less wages)	55,543 09	57,690 82
Percentage of industry product paid in wages.....	Per cent. 60.06	Per cent. 60.28
Percentage of industry product devoted to profit and minor expenses	39.94	39.77

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,260 84	\$2,046 89	— \$213 95	9.45
Average product per employee	5,159 53	5,103 64	— 55 89	1.08
Average yearly earnings	428 19	438 68	+ 10 49	2.45

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904	1905.	1904.	1905.	1904.	1905.
January	80	81	98.85	76.41	1.15	23.59
February	87	80	100.—	75.47	.....	24.53
March	85	85	97.70	80.19	2.30	19.81
April	84	85	98.55	80.19	3.45	19.81
May	83	94	95.40	79.25	4.60	20.75
June	79	83	90.80	78.30	9.20	21.70
July	78	81	89.85	76.41	10.35	23.59
August	76	80	87.36	75.47	12.64	24.53
September	79	94	90.80	85.08	9.20	11.82
October	81	106	98.10	100.—	6.92	.....
November	88	94	95.40	85.08	4.60	11.82
December	79	104	89.85	98.11	10.35	1.86
Average	82	88	94.25	83.02	5.75	16.98

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, - , per day in 1905.	
	1904	1905.	1904.	1905.	1904.	1905	1904	1905.	Amt.	Per ct.
Bookkeepers, female.	2	1	9	5	\$1.42	\$1.15	\$.158	\$.144	— \$.27	19.02
Drivers	1	.....	9	.....	2.66	.....	.296	.....	.....	.....
Engineers	2	2	10	10	2.00	2.25	.200	.225	+ .25	12.50
Finishers, female	23	11	10	10	.38	.672	.063	.007	— .158	19.04
Firemen .....	.....	2	.....	10	.....	1.34	.....	.134	.....	.....
Foremen	1	.....	10	.....	3.33	.....	.333	.....	.....	.....
Helpers	20	31	9.45	9.35	1.495	1.583	.175	.169	+ .089	5.95
Helpers, female .....	.....	13	.....	10	.....	.704	.....	.070	.....	.....
Laborers	18	11	10	10	1.758	1.645	.176	.165	— .113	6.43
Laborers, female	17	.....	10	.....	.655	.....	.066	.....	.....	.....
Machinists .....	.....	2	.....	10	.....	3.83	.....	.383	.....	.....
Mixers	1	.....	9	.....	1.66	.....	.184	.....	.....	.....
Packers	1	1	10	10	1.92	2.00	.192	.200	+ .08	4.17
Pressmen	4	3	10	10	1.585	1.723	.159	.172	+ .138	8.71
Salesmen	3	.....	8	.....	4.00	.....	.400	.....	.....	.....
Soap cutters	1	1	10	10	1.53	1.83	.153	.183	.....	.....
Soap makers	3	4	9.67	9.75	2.97	2.707	.371	.271	— .268	8.90
Stenographers, female	1	.....	10	.....	1.00	.....	.10	.....	.....	.....
Teamsters	4	4	10	10	2.218	2.21	.222	.221	— .008	.37
Total and average	102	86	9.59	9.84	\$1.443	\$1.493	\$.150	\$.152	+ \$.06	3.46

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1901.	1905	1904	1905.	1904.	1905	1904.	1905.	1904.	1905	1904	1905.
\$.50 to \$.58.	1		10	3	11	3	\$.58		\$.552	\$.50	\$.555	\$.50
.59 to .66.			9	3	9	3			.63	.63	.63	.63
.67 to .74.	2		7	12	2	12	.67		.681	.68	.679	.68
.75 to .83.	5	6	3	5	8	11	.79	\$.75	.803	.782	.795	.785
.84 to .91.						1			.88			.88
1.00 to 1.08.	1	2	13	1	14	8	1.00	1.04	1.068	1.08	1.061	1.073
1.09 to 1.16.				1		1				1.15		1.15
1.17 to 1.24.		1				1		1.17				1.17
1.25 to 1.33.	4				4		1.27				1.27	
1.50 to 1.58.	5	4			5	4	1.508	1.50			1.508	1.50
1.59 to 1.66.	1	5			1	5	1.66	1.648			1.66	1.648
1.67 to 1.74.	11	10			11	10	1.67	1.67			1.67	1.67
1.75 to 1.83.	4	4			4	4	1.83	1.823			1.83	1.823
1.84 to 1.91.		6	1		1	6	1.84	1.84			1.84	1.84
1.92 to 1.99.	2				2		1.92				1.92	
2.00 to 2.08.	8	9			8	9	2.00	2.00			2.00	2.00
2.17 to 2.24.		1				1		2.20				2.20
2.25 to 2.33.	4	1			4	1	2.31	2.25			2.31	2.25
2.50 to 2.58.	2	7			2	7	2.50	2.50			2.50	2.50
2.59 to 2.66.	1				1		2.66				2.66	
2.84 to 2.91.		1				1	2.84					2.84
3.25 to 3.33.	4	3			4	3	3.33				3.33	3.33
4.00 to 4.08.	8						4.00				4.00	
4.17 to 4.24.	1				1		4.17				4.17	
Total and av	59	61	43	25	102	86	\$1.916	\$1.814	\$.793	\$.692	\$1.443	\$1.491

Remarks.—This industry shows a moderate gain for 1905. There was an increase of 4 per cent. in the number of days of operation, of 7 per cent. in the number of employees, of from 1 per cent. to 13 per cent. in the materials used and the total wages and salaries paid, and of 6 per cent. in the output. The decrease of 3 per cent. in the total capital invested is probably to be explained by the assumption that a portion of the cash invested was temporarily employed elsewhere, at a time when a greater amount was on hand than was needed in the conduct of the business of this industry. Labor's share of the industry product was 60 per cent.—a fair proportion. Employment was somewhat irregular, especially in 1905. Both male and female help were employed in the regular occupations of this industry. The female employees constituted nearly one-half of the total number in 1904, but less than one-third of the total in 1905. There was no marked change in their hours of labor, but their average daily wages decreased by more than 12 per cent. Men's wages suffered a decrease of about 5 per cent.

43. STARCH—8 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	2	2		
Number of male partners	8	8		
Number of female partners				
Total number of partners	8	8		
Number of corporations	6	6		
Number of male stockholders	290	279	— 1	— 0.36
Number of female stockholders				
Total number of stockholders	290	279	— 1	— 0.36
Total number of partners and stockholders	288	287	— 1	— 0.35
Smallest number of persons employed	18	18	+ 3	+ 12.50
Greatest number of persons employed	80	106	+ 25	+ 31.25
Average number of persons employed	37	40	+ 3	+ 8.11
Average days in operation	81	106	+ 25	+ 30.86

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$12,000 00	\$12,800 00	+ \$200 00	1.59
Buildings and fixtures	61,175 00	61,600 00	+ 325 00	0.53
Machinery, etc.,	63,675 00	64,000 00	+ 325 00	0.51
Cash and other capital	16,450 00	19,253 98	+ 2,803 98	17.04
Total	\$153,900 00	\$157,553 98	+ \$3,653 98	2.37

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$122,806 06	\$126,806 88	+ \$5,939 22	4.83
Other material used	16,967 91	23,737 79	+ 6,779 88	39.96
Wages	22,159 86	25,180 06	+ 3,020 80	13.63
Salaries	2,623 25	2,677 80	+ 54 05	2.06
Profit and minor expenses ...	40,423 38	47,237 70	+ 6,804 32	16.83
Goods made and work done ..	206,041 06	227,639 33	+ 22,598 27	10.21

TABLE III B -ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made or work done (gross product)	\$205,041 06	\$227,639 33
Value of stock used and material consumed in production	139,824 57	152,543 67
Industry product (gross production less value of stock and material)	65,216 49	75,095 66
Wages and salaries (Labor's direct share of product)	24,733 11	27,897 96
Profit and minor expense fund (industry product less wages)	40,433 38	47,237 70
	Per cent.	Per cent.
Percentage of industry product paid in wages.....	37.00	37.10
Percentage of industry product devoted to profit and minor expenses	63.00	62.90

TABLE IV -AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly Earnings in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$4,150 46	\$3,938 85	- \$220 61	5.30
Average product per employee	5,541 65	5,020 98	+ 149 33	2.09
Average yearly earnings	538 92	629 52	+ 30 00	5.11

TABLE V- RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	29	30	35. —	28.57	65. —	71.43
February	16	18	20. —	17.14	80. —	82.86
March	28	65	35. —	61.90	65. —	38.10
April	61	105	76.25	100. —	23.75	—
May	43	77	53.75	73.33	46.25	26.67
June	41	46	55. —	43.81	45. —	56.19
July	16	18	20. —	17.14	80. —	82.86
August	16	18	20. —	17.14	80. —	82.86
September	41	26	51.25	24.76	48.75	75.24
October	80	42	100. —	40. —	—	60.00
November	51	18	63.75	17.14	36.25	82.86
December	16	18	20. —	17.14	80. —	82.86
Average	37	40	46.25	38.10	53.75	61.90

TABLE VI OCCUPATIONS AND WAGES OF EMPLOYERS.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, -, per day in 1905.	
	1904.	1905.	1904.	1905.	1	4.	1905.	1904.	1905.	Amt. Per ct.
Engineers	5	3	10.0	10.00	\$2.58	\$2.50	\$.218	6.250	—	\$.080 3.19
Factory hands	7	15	9.00	9.00	2.407	2.50	.268	.278	+	.003 3.83
Factory hands, female	2	3	9.00	9.00	1.175	1.50	.131	.166	+	.325 27.66
Firemen	2	2	10.00	10.00	1.50	1.75	.150	.175	+	.250 15.67
Foremen	4	2	11.25	10.00	3.62	2.00	.322	.200	—	1.425 39.31
Helpers	8	8	9.50	10.00	1.67	1.716	.171	.172	+	.091 5.60
Laborers	63	60	10.00	10.00	1.698	1.738	.170	.174	+	.040 2.39
Machine tenders	1	1	12.00	12.00	2.00	2.00	.166	.163	—	— —
Machinists	1	5	12.00	12.00	3.00	2.60	.250	.217	—	.400 13.23
Potato buyers	1	1	10.00	10.00	2.50	2.50	.250	.250	—	— —
Scale men	1	1	10.00	10.00	1.75	1.75	.175	.175	—	— —
Shipping clerks	2	2	9.00	9.00	2.37	2.37	.264	.264	—	— —
Machinists	5	5	10.40	10.00	2.96	3.45	.274	.345	+	.490 16.75
Teamsters	2	2	9.50	9.50	3.05	3.05	.321	.321	—	— —
Watchmen	1	1	12.00	12.00	3.00	2.00	.166	.136	—	— —
Weighers	2	2	10.00	10.00	2.27	1.875	.228	.188	—	.400 17.59
Total	107	108	10.01	9.89	\$1.98	\$1.995	\$.198	\$.202	+	\$.015 .76

TABLE VII CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$1.00 to \$1.16			1		1					\$1.10		\$1.10
1.25 to 1.33			1		1					1.25		1.25
1.50 to 1.58	24	11		3	24	17	\$1.50	\$1.50		\$1.50	1.50	1.50
1.50 to 1.63	3				3		1.00				1.00	
1.75 to 1.83	42	53			42	53	1.75	1.75			1.75	1.75
1.84 to 1.91	2				2		1.85				1.85	
2.00 to 2.08	4	8			4	8	2.00	2.00			2.00	2.00
2.25 to 2.33	3	2			3	2	2.266	2.25			2.266	2.25
2.34 to 2.41	3				3		2.40				2.40	
2.50 to 2.58	12	26			12	26	2.50	2.50			2.50	2.50
2.84 to 2.91	1				1		2.90				2.90	
3.00 to 3.08	7	5			7	5	3.00	3.00			3.00	3.00
3.09 to 3.16	1				1		3.10				3.10	
3.75 to 3.83		1				1		3.75				3.75
4.00 to 4.08	2	2			2	2	4.00	4.00			4.00	4.00
4.50 to 4.55	1				1		4.50				4.50	
Total	105	105	2	3	107	108	\$1.055	\$2.009	\$1.175	\$1.50	\$1.98	\$1.995

Remarks.—The manufacture of starch, one of the smaller industries of the state, shows a material gain for 1905. There was an increase of 8 per cent. in the number of employees, of 31 per cent. in the average number of days of operation, of from 2 to 40 per cent. in the materials used and the total wages and salaries paid, and of 10 per cent. in the output. The average yearly earnings of employees increased about 5 per cent. Labor's share of the industry product was very small each year—37 per cent. Employment was exceptionally irregular, unemployment reaching a maximum of 54 per cent. in 1904 and of 62 per cent. in 1905. There were very few female employees. Two women worked as factory hands in 1904, and three in 1905. Their hours of labor were 9 per day. Their average daily wages were \$1.18 in 1904 and \$1.50 in 1905. The hours for men averaged over 10 per day in 1904, but less than 10 in 1905. The daily wages both of men and of women were considerably higher than the average for all industries.

44. STAVES AND HEADINGS—8 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	3	2	— 1	33.33
Number of male partners	4	5	+ 1	25.00
Number of female partners				
Total number of partners	4	5	+ 1	25.00
Number of corporations	5	6	+ 1	20.00
Number of male stockholders	271	275	+ 4	1.48
Number of female stockholders	198	197	— 1	0.51
Total number of stockholders	469	472	+ 3	0.64
Total number of partners and stockholders	473	477	+ 4	0.85
Smallest number of persons employed	166	199	+ 33	19.88
Greatest number of persons employed	356	322	— 34	9.55
Average number of persons employed	277	268	— 11	3.97
Average days in operation	293	250	— 43	14.68

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$56,932 10	\$34,700 00	— \$22,232 10	39.05
Building and fixtures	39,500 00	31,500.00	— 8,000 00	20.25
Machinery, etc.,	49,317 11	45,750 00	— 3,567 11	7.23
Cash and other capital	149,292 69	145,649 50	— 3,643 39	2.44
Total	\$205,042 10	\$257,539 50	— \$37,442 60	12.00

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$158,524 97	\$122,831 41	— \$35,693 56	22.52
Other material used	10,750 04	8,313 21	— 2,446 73	22.74
Wages	120,245 77	99,131 14	— 21,109 63	17.59
Salaries	10,734 06	13,497 00	+ 2,763 00	25.74
Profit and minor expenses ..	41,767 76	31,541 87	— 5,225 89	12.51
Goods made and work done ..	342,027 44	280,314 63	— 61,712 81	18.04

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made or work done (gross product)	\$342,027 44	\$280,314 63
Value of stock used and material consumed in pro- duction	169,284 91	131,144 02
Industry product (gross production less value of stock and material)	172,742 53	149,170 61
Wages and salaries (Labor's direct share of pro- duct)	130,974 77	112,638 14
Profit and minor expense fund (Industry product less wages)	41,767 76	36,541 87
	Per cent.	Per cent.
Percentage of industry product paid in wages	75.82	75.50
Percentage of industry product devoted to profit and minor expenses	24.18	24.50

TABLE IV--AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,065 13	\$962 42	— \$102 71	9.64
Average product per employee	1,234 76	1,053 81	— 180 95	14.65
Average yearly earning	434 08	372 67	— 61 41	14.15

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	257	263	72.19	81.68	27.81	18.32
February	252	266	82.02	95.03	17.98	4.97
March	336	288	91.38	89.44	5.62	10.56
April	356	282	100. —	87.58	.....	12.42
May	352	292	98.88	90.68	1.12	9.32
June	343	302	96.35	93.79	3.65	6.21
July	328	322	94.95	100. —	5.05	.....
August	277	233	77.81	72.36	22.19	27.64
September	228	199	61.04	61.80	38.96	38.20
October	176	235	49.44	72.98	50.56	27.02
November	204	235	57.30	72.98	42.70	27.02
December	196	223	46.63	72.36	53.37	27.64
Average	277	266	77.81	82.61	22.19	17.39

TABLE VI. OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1901.	1905	1904.	1905.	1904.	1905	1904.	1905.	Amt.	Per ct.
Barkers	1	10			\$1.50		\$.150			
Bollers	2	1 10	10		1.50	\$1.75	.150	\$.175 +	\$.250	16.67
Box makers		2	10			2.00		.200		
Boys	15	9 10	10		1.107	.789	.111	.079 —	.318	28.73
Cullers		1	9			1.75		.194		
Cut-off sawyers	1	1 10	10		1.50	2.00	.150	.200 +	.500	33.33
Cutters		1	9			3.50		.389		
Engineers	4	6 10.50	10.08		2.313	1.942	.220	.193 —	.371	16.04
Feeders		3	10			1.38		.138		
Filers	2	3 10.25	10		3.00	2.75	.303	.275 —	.250	8.33
Finishers		6	10			1.75		.175		
Firemen	10	6 10.00	11.67		2.078	1.833	.194	.157 —	.225	10.93
Flexors	3		10		1.38		.138			
Foremen	2	2 10	10		3.50	3.00	.350	.300 —	.500	14.29
Grinders		1	10			2.00		.200		
Headers	11		10.18		2.386		.234			
Head matchers	1	1 10	10		1.65	1.75	.165	.175 +	.100	6.06
Hub men	10		10		1.975		.198			
Joiners	1	2 10	10		1.75	1.75	.175	.175		
Laborers	139	236 10	10.15		1.442	1.453	.144	.143 +	.011	0.76
Lathe tenders		1	10			1.90		.190		
Machine operators	32	6 10	10.17		1.807	2.083	.197	.205 +	.216	11.00
Machinists	1	1 10	10		2.25	3.30	.225	.225 +	1.050	46.60
Mill men	5		10.50		2.00		.190			
Millwrights		1	10			2.25		.225		
Packers	1	1 10			1.50		.150			
Painters	1	1 10	10		2.00	2.25	.200	.225 +	.250	12.50
Pilers	2	2 10	10		2.00	2.00	.200	.200		
Sawyers	3	6 10	10.08		2.00	2.042	.200	.203 +	.042	2.10
Stavers	1		10		4.00		.400			
Teamsters	3	2 10	10		1.50	1.25	.150	.125 —	.250	16.66
Turners	1	6 10	10		2.00	2.25	.200	.225 +	.250	12.50
Watchmen	1	1 10	10		1.50	2.00	.150	.200 +	.500	33.33
Yardmen	39		10.50		1.505		.143			
Total	292	308	10.14	10.15	\$1.629	\$1.533	\$.161	\$.153 —	\$.078	4.67

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58.		2			2		\$.50				\$.50	
.75 to .83.	6	9			6	8	.75	.75			.75	.75
.84 to .91.	1	6			1	0	.85	.883			.85	.883
1.00 to 1.08.	17	25			17	25	1.00	1.00			1.00	1.00
1.09 to 1.16.	2	1			2	1	1.10	1.10			1.10	1.10
1.25 to 1.33.	37	0			37	6	1.25	1.25			1.25	1.25
1.34 to 1.41.	10	5			10	5	1.37	1.38			1.37	1.38
1.50 to 1.58.	119	156			119	156	1.502	1.50			1.502	1.50
1.59 to 1.66.	6	21			6	21	1.603	1.607			1.603	1.607
1.67 to 1.74.	5				6		1.73				1.73	
1.75 to 1.83.	23	40			23	40	1.75	1.75			1.75	1.75
1.84 to 1.91.	13	2			18	2	1.87	1.875			1.87	1.875
2.00 to 2.08.	21	19			21	19	2.00	2.00			2.00	2.00
2.25 to 2.33.	10	8			10	8	2.25	2.25			2.25	2.25
2.50 to 2.58.	1	1			1	1	2.50	2.50			2.50	2.50
2.75 to 2.83.		1				1		2.75				2.75
3.00 to 3.08.	4	6			4	6	3.00	3.00			3.00	3.00
3.25 to 3.33.		1				1		3.30				3.30
3.50 to 3.58.	9	1			9	1	3.50	3.50			3.50	3.50
4.00 to 4.05.	2				2		4.00				4.00	
Total	292	508			292	508	\$1.629	\$1.553			\$1.629	\$1.573

Remarks.—This industry appears to have suffered a considerable decline in 1905. The reason is difficult to ascertain, especially since the industry of cooperage—which makes use of the product of this industry—shows a gain for that year. One cause may be an overstocking of the market in 1904. But a more probable reason lies in the assumption that a part of the capital formerly invested here was applied to other branches of the lumber industry in which greater profits would be realized. The foregoing tables indicate a decrease of from 4 to 13 per cent. in the capital invested, the number of persons employed, the average days of operation, the materials used, the average yearly earnings of employees, and the output. No female help was employed in this industry. Men's daily wages were considerably lower than the average for all industries. Their hours of labor were somewhat over 10 per day.

45. STONE—22 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms.....	9	8	— 1	11.11
Number of male partners.....	16	10	— 6	37.50
Number of female partners.....	1	7	+ 6	600.00
Total number of partners.....	17	17	—	—
Number of corporations.....	13	14	+ 1	7.69
Number of male stockholders.....	72	79	+ 7	5.56
Number of female stockholders.....	5	8	+ 3	60.00
Total number of stockholders.....	77	84	+ 7	9.09
Total number of partners and stockholders.....	94	101	+ 7	7.45
Smallest number of persons employed.....	431	438	+ 7	1.62
Greatest number of persons employed.....	1,156	933	— 223	19.29
Average number of persons employed.....	827	710	— 117	14.15
Average days in operation.....	262	263	— 1	0.76

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$573,623 25	\$575,150 00	+ \$1,526 75	0.27
Buildings and fixtures.	341,396 73	355,414 77	+ 14,018 04	4.10
Machinery, etc.	357,158 00	358,146 43	+ 988 43	0.28
Cash and other capital	379,511 07	360,202 44	— 13,608 63	3.58
Total	\$1,651,989 05	\$1,654,913 64	+ \$2,924 59	0.18

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$130,720 41	\$342,704 16	— \$77,956 25	18.53
Other material used	99,271 23	73,751 01	— 25,520 22	25.78
Wages	300,226 56	340,725 49	— 49,498 06	12.63
Salaries	73,709 92	68,350 80	— 5,359 12	7.27
Profit and minor expenses....	229,793 57	235,907 68	+ 6,214 11	2.70
Goods made and work done..	\$1,213,711 68	\$1,061,592 14	— \$152,119 54	12.53

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$1,213,711 08	\$1,061,502 14
Value of stock used and material consumed in production	510,091 04	416,515 17
Industry product (gross production less value of stock and material)	633,720 04	645,076 97
Wages and salaries (Labor's direct share of product)	463,935 47	409,079 29
Profit and minor expense fund (industry product less wages)	229,783 57	235,997 08
Percentage of industry product paid in wages.....	Per cent. 66.88	Per cent. 63.42
Percentage of industry product devoted to profit and minor expenses	33.12	36.58

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product, and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905	Amount.	Per cent.
Average capital per employee.....	\$1,007 57	\$2,239 86	+ \$333 29	16.08
Average product per employee.....	1,455 52	1,495 20	+ 39 68	2.73
Average yearly earnings	479 77	479 89	+ 20 03	4.36

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	450	438	28.93	46.95	61.07	53.05
February	431	416	37.28	47.80	62.72	52.20
March	519	551	47.49	59.03	52.51	40.94
April	753	704	64.87	75.46	35.13	24.54
May	1,009	813	87.28	87.14	12.72	12.86
June	1,059	876	93.34	93.89	6.66	6.11
July	1,120	929	96.89	99.57	3.11	0.43
August	1,156	933	100.00	100.00		
September	1,022	865	89.27	92.71	10.73	7.29
October	963	784	85.90	84.03	14.10	15.97
November	828	641	71.63	68.70	28.37	31.30
December	504	537	43.00	56.56	56.40	42.44
Average	827	710	71.54	76.10	28.46	23.90

TABLE VI- OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	3	12	9	9	\$1.055	\$1.112	\$.117	\$.124	+	\$.057 5.40
Blacksmiths	14	13	9.03	9.38	2.875	2.798	.209	.208	—	.017 2.63
Blacksmiths' helpers	2	10			1.75		.175			
Blasters	2	10			2.00		.200			
Block makers	39	10			2.75		.275			
Bookkeepers, female	1	4			1.20		.300			
Carpenters	21	43	9.00	9.91	2.94	2.971	.297	.300	+	.011 1.51
Carvers	4	5	9	8.80	3.25	5.00	.361	.568	+	1.75 53.85
Casters	6	4	10	9	2.50	2.117	.250	.237	—	.085 3.32
Concrete finishers	12	10			3.00		.300			
Concrete mixers	12	10			2.00		.200			
Crane men	3	4	10	10	2.25	2.063	.225	.206	—	.187 8.31
Crushers	4	10			2.00		.200			
Crushers' helpers	3	10			1.75		.175			
Decorators	13	9	10	9	2.546	2.774	.255	.300	+	.288 11.31
Drillers	86		9.34		2.00		.200			
Electricians	1	9			2.00		.200			
Engineers	12	19	9.50	9.63	2.571	2.674	.271	.276	+	.083 8.93
Engineers' helpers	2	10			1.85		.185			
Finishers	6	18	10	9.56	1.778	2.58	.178	.266	+	.760 4.27
Firemen	2	1	9	8	1.75	1.75	.191	.21		
Fitters	5	6	9	9	3.00	3.00	.300	.300		
Foremen	16	14	9.63	9.57	4.064	4.324	.422	.45	+	.200 6.40
Helpers	33	19	9.98	9.47	1.104	1.784	.111	.188	+	.089 7.18
Hoisters	6	10			1.75		.175			
Hookers	4	2	10	10	2.188	2.00	.219	.200	—	.188 8.59
Laborers	424	200	9.00	9.85	1.80	1.707	.181	.184	—	.023 1.28
Letterers	1	9	10	10	3.00	2.639	.300	.264	—	.314 1.20
Machine men	15	43	9	9.34	2.50	2.321	.278	.244	+	.021 1.84
Machinists	6	6	9.34	9.17	2.50	2.292	.267	.250	—	.208 8.32
Marble cutters	2	8			1.74		.217			
Mill hands	10	1	10	10	1.75	2.25	.175	.225	+	.50 2.83
Millwrights	4	2	10	10	2.363	2.75	.236	.275	—	.183 0.24
Modelers	1	10			4.00		.40			
Office men	1	10			4.50		.450			
Packers	4	4	9.50	9	1.80	2.105	.180	.234	+	.305 16.9
Painters	1	10			1.67		.167			
Paving cutters	8	16	9	9	3.50	3.50	.389	.389		
Planers	27	8	10	10	2.300	2.45	.230	.245	+	.057 2.38
Polishers	45	47	9	9	1.917	1.896	.213	.211	—	.021 1.00
Quarry foremen	1	10			2.00		.20			
Quarry men	107	97	9.82	9.79	1.818	1.828	.187	.192		
Salesmen	1	10			3.00		.300			
Sawyers	13	10	10	10	2.287	2.215	.229	.222	—	.072 3.15
Setters	12	14	8	8.86	4.00	3.821	.500	.431	—	.179 4.45
Setters' helpers	10	12	8	8	2.00	2.00	.250	.250		
Stone cutters	120	106	8.54	8.42	3.51	3.36	.409	.394	+	.15 4.27
Superintendents	1	10			2.50		.25			
Tennisters	7	11	9.71	9.27	1.833	1.64	.188	.177	—	.188 1.03
Watchmen	1	1	10	12	1.75	1.75	.175	.146		
Water boys	1	1	10	10	1.00	1.09	.100	.109		
Yardmen	5	6	10	10	2.00	2.00	.200	.200		
Total and average	1,164	761	9.59	9.36	\$2.201	\$2.116	\$.23	\$.258	+	\$.212 9.62

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904	1905.	1904.	1905.	1904.	1905.	1904.	1905	1904.	1905.	1904.	1905.
\$.50 to \$.58.	2	.....	.....	.....	2	.....	1.00	.....	.....	.....	1.00	.....
.75 to .83.	6	2	.....	.....	6	2	.703	\$.83	.....	.....	.703	\$.83
.84 to .91.	.....	1	.....	.....	.....	1	.....	.85	.....	.....	.....	.85
1.00 to 1.08.	11	6	.....	.....	11	6	1.00	1.00	.....	.....	1.00	1.00
1.09 to 1.16.	0	.....	.....	.....	0	.....	1.13	.....	.....	.....	1.13	.....
1.17 to 1.24.	4	2	.....	1	4	3	1.20	1.17	.....	\$1.20	1.20	1.18
1.25 to 1.33.	.....	1	.....	.....	.....	1	.....	1.33	.....	.....	.....	1.33
1.34 to 1.41.	.....	6	.....	.....	.....	6	.....	1.35	.....	.....	.....	1.35
1.50 to 1.59.	64	38	.....	.....	64	38	1.50	1.50	.....	.....	1.50	1.50
1.59 to 1.66.	.....	14	.....	.....	.....	14	.....	1.65	.....	.....	.....	1.65
1.67 to 1.74.	4	4	.....	.....	4	4	1.75	1.67	.....	.....	1.75	1.67
1.75 to 1.83.	368	220	.....	.....	368	220	1.781	1.75	.....	.....	1.781	1.75
1.84 to 1.91.	92	9	.....	.....	92	9	1.851	1.849	.....	.....	1.851	1.849
2.00 to 2.08.	241	109	.....	.....	241	109	2.00	2.00	.....	.....	2.00	2.00
2.09 to 2.16.	3	6	.....	.....	3	6	2.10	2.125	.....	.....	2.10	2.125
2.17 to 2.24.	1	3	.....	.....	1	3	2.20	2.18	.....	.....	2.20	2.18
2.25 to 2.33.	34	27	.....	.....	34	27	2.25	2.25	.....	.....	2.25	2.25
2.34 to 2.41.	2	1	.....	.....	2	1	2.38	2.38	.....	.....	2.33	2.38
2.50 to 2.58.	56	52	.....	.....	56	52	2.50	2.50	.....	.....	2.50	2.50
2.59 to 2.66.	2	2	.....	.....	2	2	2.615	2.615	.....	.....	2.615	2.615
2.75 to 2.83.	56	18	.....	.....	56	18	2.75	2.75	.....	.....	2.75	2.75
2.84 to 2.91.	.....	1	.....	.....	.....	1	.....	2.88	.....	.....	.....	2.88
3.00 to 3.08.	88	106	.....	.....	88	106	3.00	3.00	.....	.....	3.00	3.00
3.09 to 3.16.	.....	1	.....	.....	.....	1	.....	3.13	.....	.....	.....	3.13
3.25 to 3.33.	12	6	.....	.....	12	6	3.250	3.263	.....	.....	3.256	3.263
3.42 to 3.49.	1	1	.....	.....	1	1	3.40	3.46	.....	.....	3.40	3.46
3.50 to 3.58.	13	39	.....	.....	13	39	3.50	3.50	.....	.....	3.50	3.50
3.59 to 3.66.	.....	1	.....	.....	.....	1	.....	3.60	.....	.....	.....	3.60
3.75 to 3.83.	.....	1	.....	.....	.....	1	.....	3.75	.....	.....	.....	3.75
4.00 to 4.08.	84	72	.....	.....	84	72	4.00	4.00	.....	.....	4.00	4.00
4.25 to 4.33.	10	.....	.....	.....	10	.....	4.25	.....	.....	.....	4.25	.....
4.34 to 4.41.	3	1	.....	.....	3	1	4.40	4.40	.....	.....	4.40	4.40
4.50 to 4.58.	1	10	.....	.....	1	10	4.50	4.50	.....	.....	4.50	4.70
4.75 to 4.83.	.....	1	.....	.....	.....	1	.....	4.80	.....	.....	.....	4.87
5.00 to 5.08.	.....	1	.....	.....	.....	1	.....	5.00	.....	.....	.....	5.00
12.00 to 12.08.	.....	1	.....	.....	.....	1	.....	12.00	.....	.....	.....	12.00
Total and av.	1,164	763	.....	1	1,164	764	\$2.204	\$2.417	.....	\$1.20	\$2.204	\$2.416

Remarks.—Under this industry are included the quarrying and dressing of building stone and monuments, and the manufacture of cement. The census of 1900 reported 159 establishments in the state engaged in some branch of this industry. The abundant natural deposits of stone and of the materials for cement give promise of a constant growth of the industry in Wisconsin. According to the foregoing tables there was a considerable decrease in the number of employees and in the output in 1905. But the tables are based upon returns from less than one-seventh of the total number of establishments, and probably do not indicate the true condition of the industry in the state. As

far however as the firms which reported are concerned, the decrease in the materials used, the total wages and salaries paid, and the output resulted mainly from the decrease in the average number of employees. But the reason for the employment of fewer workmen in 1905 is difficult to ascertain, especially since the average daily wages paid were \$2.41, an increase of about 10 per cent. over the wages paid in the preceding year. Further, these wages are much higher than the average wages for all industries. Unusual activity in 1904 may of course have resulted in an overstocking of the market, and the consequent dismissal of many of the minor employees in 1905. Employment was somewhat irregular each year, the winter months constituting the period of least activity in the industry. But one woman was employed—a bookkeeper in 1905, working 4 hours per day. The average hours for men were about 9½ per day.

46. STRUCTURAL IRON—8 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	3	3	.....	.....
Number of male partners.....	5	5	.....	.....
Number of female partners.....	.....	.....	.....	.....
Total number of partners.....	5	5	.....	.....
Number of corporations.....	5	5	.....	.....
Number of male stockholders.....	28	32	+ 4	14.29
Number of female stockholders.....	5	6	+ 1	20.00
Total number of stockholders.....	33	38	+ 5	15.15
Total number of partners and stockholders..	33	43	+ 5	13.16
Smallest number of persons employed.....	423	398	— 25	5.91
Greatest number of persons employed.....	576	637	+ 111	19.27
Average number of persons employed.....	492	611	+ 119	24.19
Average days in operation.....	298	303	+ 5	1.68

TABLE II INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$150,750 37	\$156,231 59	+ \$5,481 22	3.64
Buildings and fixtures	171,533 21	194,476 79	+ 22,943 58	13.33
Machinery, etc.	282,424 67	204,713 40	+ 12,288 73	4.35
Cash and other capital.....	377,034 85	401,929 65	+ 24,894 80	6.60
Total	\$981,743 10	\$1,017,351 43	+ \$65,008 33	6.68

TABLE IIIA—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$798,567 63	\$998,812 73	+ \$200,445 10	25.11
Other material used.....	84,836 22	98,230 88	+ 13,394 66	15.78
Wages	229,723 04	285,780 85	+ 56,057 81	24.40
Salaries	77,152 06	84,092 85	+ 6,940 79	9.00
Profit and minor expenses...	182,639 48	220,302 79	+ 37,663 31	20.62
Goods made and work done..	\$1,372,718 43	\$1,687,210 10	+ \$314,491 67	22.91

TABLE IIIB—ANALYSIS OF TABLE IIIA.

Classification,	1904.	1905.
Goods made and work done (gross product).....	\$1,372,718 43	\$1,687,210 10
Value of stock used and material consumed in production	883,203 85	1,097,033 61
Industry product (gross production less value of stock and material)	489,514 58	590,176 49
Wages and salaries (Labor's direct share of product)	303,875 10	389,873 70
Profit and minor expense fund (industry product less wages)	182,639 48	220,302 79
Percentage of industry product paid in wages.....	62.60	62.67
Percentage of industry product devoted to profit and minor expenses	37.31	37.33

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$1,995 41	\$1,714 16	- \$281 25	14.10
Average product per employee.....	2,780 05	2,761 39	- 28 66	1.03
Average yearly earnings	466 92	467 73	+ 0 81	0.17

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904	1905.
January	448	503	77.78	67.70	22.22	32.30
February	432	538	75.00	53.57	25.00	46.43
March	423	502	73.44	67.56	26.56	32.44
April	457	575	79.34	77.39	20.63	22.61
May	494	658	85.77	85.87	14.23	14.13
June	512	613	88.89	82.50	11.11	17.50
July	553	665	96.01	89.50	3.99	10.50
August	553	687	96.01	92.46	3.99	7.54
September	576	680	100.—	91.52	.....	8.48
October	526	743	91.32	100.—	8.68	.....
November	484	686	84.03	92.33	15.97	7.67
December	446	642	77.43	86.41	22.57	13.59
Average	492	611	85.42	82.23	14.58	17.77

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Assemblers		6		10		\$2.292		\$.229		
Blacksmiths	10	7	9.70	10	\$2.768	2.621	.285	.262	— .147	5.31
Boys	3	5	10	10	1.167	1.15	.117	.115	— .017	1.46
Bridge workers	47		9		1.749		.199	.227		
Carpenters	1	7	10	10	1.75	2.286	.175		+ .536	3.06
Catchers	3	2	10	10	1.917	2.00	.192	.209	+ .083	4.33
Coopers	1	1	10	10	1.40	1.40	.140	.140		
Crane operators		15		10		1.933		.193		
Draftsmen	5	5	10	10	2.60	2.36	.260	.236	— .24	9.23
Electricians		1		10		3.90		.390		
Engineers	3	3	9.67	10.33	2.507	2.633	.259	.255	+ .126	5.03
Erectors		44		9.52		4.00		.407		
Firemen	2	2	10	10.30	1.75	2.05	.175	.199	+ .30	1.71
Foremen	1	3	10	10	1.50	2.667	.150	.267	+ 1.117	74.47
Handlers		1		10		2.16		.216		
Heaters	3	9	10	10	2.30	1.60	.230	.160	— .70	30.43
Helpers	24	83	9.83	10	1.581	1.562	.161	.156	— .019	1.20
Helpers, female	1			8.50		.83		.098		
Inspectors		1		10		3.00		.36		
Iron workers	138	102	10	10	1.757	1.839	.176	.184	+ .063	4.67
Laborers	177	129	9.64	10	1.388	1.62	.144	.162	+ .332	23.92
Loaders		1		10		2.25		.225		
Machine tenders	39		10		1.815		.182			
Machinists	45	40	9.35	10	2.006	2.315	.289	.232	— .291	11.17
Molders		6		9		2.00		.222		
Oilers	6	5	10	10	1.383	1.41	.138	.141	+ .027	1.95
Packers	3	2	10	10	1.733	1.90	.173	.190	+ .167	9.64
Packers, female		6		10		.590		.060		
Painters		5		10		1.60		.160		
Pattern makers	1	1	9	10	2.79	3.50	.339	.250	+ .71	25.45
Polishers		1		10		1.90		.190		
Press hands	17	18	10	10	1.492	1.433	.149	.143	— .059	3.95
Press hands, female	7	9	10	10	.714	.657	.071	.066	— .057	7.98
Punchers		12		10		1.746		.175		
Riveters		9		10		2.303		.236		
Rivet makers		1		10		1.70		.170		
Rollers	1	1	10	10	2.00	2.00	.200	.200		
Sawyers		1		10		1.85		.185		
Shearers		1		10		1.85		.185		
Shipping clerks		1		10		1.85		.185		
Sorters, female	6	2	10	10	.61	.87	.061	.087	+ .16	26.23
Store keepers	1	1	9	10	1.53	1.85	.17	.185	+ .32	20.93
Straighteners		2		10		1.85		.185		
Teamsters	5	6	10	10.17	1.774	1.867	.177	.183	+ .063	6.24
Templet makers	10	11	9.20	10	2.495	2.818	.271	.282	+ .323	12.94
Tool setters	1	1	10	10	1.90	2.00	.19	.20	+ .10	5.26
Watchmen	5	8	10.80	10.88	1.73	1.721	.160	.158	— .009	.58
Weighers	1	1	10	10	2.00	2.00	.200	.200		
Total and av.	567	578	9.72	9.82	\$1.71	\$1.96	\$.186	\$.20	+ \$.25	14.62

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive.)	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.59.	2	2	5	6	7	11	\$.50	\$.50	\$.510	\$.50	\$.511	\$.50
.59 to .63.				1		1				.59		.59
.67 to .74.	1	1	3	4	4	5	.67	.67	.67	.67	.67	.67
.75 to .83.		1	6	2	6	3		.83	.817	.75	.83	.777
.84 to .91.	10	1		4	10	5	.90	.90	.87	.90	.90	.876
.92 to .99.	1				1		.99				.99	
1.00 to 1.05.	9	8			9	8	1.036	1.00			1.036	1.00
1.09 to 1.16.	8	3			8	3	1.11	1.10			1.11	1.10
1.17 to 1.24.	1				1		1.20				1.20	
1.25 to 1.33.	79	22			79	22	1.29	1.251			1.29	1.251
1.34 to 1.41.	29	3			29	3	1.283	1.333			1.283	1.333
1.42 to 1.49.	7	8			7	3	1.469	1.45			1.469	1.45
1.50 to 1.58.	126	83			126	83	1.502	1.50			1.502	1.50
1.59 to 1.66.	45	90			45	90	1.629	1.603			1.629	1.603
1.67 to 1.74.	14	15			14	15	1.683	1.70			1.698	1.70
1.75 to 1.83.	57	95			57	95	1.763	1.754			1.763	1.754
1.84 to 1.91.	23	19			23	19	1.809	1.866			1.809	1.866
1.92 to 1.99.	2	3			2	3	1.965	1.78			1.965	1.78
2.00 to 2.08.	47	53			47	53	2.006	2.00			2.006	2.00
2.09 to 2.16.	1	5			1	5	2.16	2.12			2.16	2.12
2.17 to 2.24.	4	7			4	7	2.20	2.196			2.20	2.196
2.25 to 2.33.	23	29			23	29	2.252	2.252			2.252	2.253
2.34 to 2.41.	7	4			7	4	2.39	2.40			2.39	2.40
2.50 to 2.58.	11	20			11	20	2.50	2.50			2.50	2.50
2.59 to 2.66.	6	1			6	1	2.617	2.60			2.617	2.60
2.67 to 2.74.	1	2			1	2	2.70	2.685			2.70	2.685
2.75 to 2.83.	11	16			11	16	2.767	2.75			2.767	2.75
2.84 to 2.91.		1				1		2.90				2.90
2.92 to 2.99.	1	1			1	1	2.93	2.95			2.93	2.95
3.00 to 3.08.	10	10			10	10	3.001	3.00			3.001	3.00
3.09 to 3.16.	1	2			1	2	3.15	3.13			3.15	3.13
3.25 to 3.33.	3	1			3	1	3.283	3.25			3.283	3.25
3.34 to 3.41.		1				1		3.35				3.35
3.50 to 3.58.	1	4			1	4	3.50	3.50			3.50	3.50
3.59 to 3.66.	11	1			11	1	3.60	3.60			3.60	3.60
3.75 to 3.83.		1				1		3.75				3.75
3.84 to 3.91.		1				1		3.90				3.90
4.00 to 4.08.		45				45		4.00				4.00
Total and av.	553	561	14	17	567	578	\$1.738	\$1.998	\$0.78	\$.667	\$1.71	\$1.96

Remarks.—The manufacture of structural iron is a branch of the iron and steel industry that seems destined to increase in importance from year to year. A remarkable gain for 1905 is indicated by the foregoing tables. There was an average increase of 7 per cent. in all items of investment, of 24 per cent. in the number of employees, of 23 per cent. in the materials used, and of 25 per cent. in the output. The average daily wages paid were nearly 15 per cent. higher in 1905. Labor's share of the industry product was large—63 per cent. Employment was very irregular, the summer months being the period

of greatest activity in the industry. Very few women were employed—14 in 1904, and 17 in 1905. About half worked in occupations peculiar to the industry. With one exception, their hours of labor were uniformly 10 per day. Their daily wages were much lower than the average for women in all industries.

47. TRUNKS AND VALISES—6 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Percent.
Number of private firms				
Number of male partners				
Number of female partners				
Total number of partners				
Number of corporations	6	6		
Number of male stockholders	53	53		
Number of female stockholders	12	12		
Total number of stockholders	65	65		
Total number of partners and stockholders	65	65		
Smallest number of persons employed	340	374	+ 34	10. —
Greatest number of persons employed	447	417	— 30	6.71
Average number of persons employed	397	395	— 2	0.50
Average days in operation	286	296	+ 12	4.20

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905	
	1904.	1905.	Amount.	Percent.
Land	\$48,000 00	\$49,000 00	+ \$1,000 00	2.08
Buildings and fixtures	85,075 00	86,120 00	+ 1,045 00	1.23
Machinery, etc.,	64,710 00	66,650 50	+ 840 50	1.30
Cash and other capital	433,839 34	457,634 40	+ 23,745 06	5.47
Total	\$631,614 34	\$658,304 90	+ \$26,690 56	4.22

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Raw material used	\$409,400 00	\$452,330 00	+ \$42,930 00	10.49
Other material used	5,800 00	6,350 00	+ 550 00	9.49
Wages	165,688 00	167,847 48	+ 2,159 48	1.30
Salaries	83,550 00	84,750 00	+ 1,200 00	1.44
Profit and minor expenses ...	160,825 60	163,522 52	+ 2,696 92	1.68
Goods made and work done ..	825,263 60	874,800 00	+ 49,536 40	6.00

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross production)	\$325,263 60	\$374,800 00
Value of stock used and material consumed in pro- duction	415,200 00	458,690 00
Industry product (gross production less value of stock and material)	410,063 60	416,120 00
Wages and salaries (Labor's direct share of pro- duct	249,238 00	252,597 48
Profit and minor expense fund (Industry product less wages)	160,825 60	163,522 52
Percentage of industry product paid in wages	Per cent. 60.78	Per cent. 60.94
Percentage of industry product devoted to profit and minor expenses	39.22	39.06

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$1,591 12	\$1,666 59	+ \$75 47	4.74
Average product per employee	2,079 00	2,214 63	+ 135 63	6.53
Average yearly earnings	417 85	424 93	+ 7 58	1.82

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	441	339	98.66	93.28	1.34	6.72
February	441	404	98.66	96.83	1.34	3.12
March	447	400	100.—	95.92	.....	4.08
April	425	390	95.08	93.52	4.92	6.48
May	410	390	91.72	93.52	8.28	6.48
June	399	377	89.23	90.41	10.74	9.59
July	401	374	89.71	89.66	10.29	10.31
August	367	379	82.10	80.89	17.90	9.11
September	332	396	80.93	94.06	19.03	5.01
October	340	414	76.06	99.23	23.94	0.72
November	353	417	73.97	100.—	21.03	.....
December	374	412	83.67	98.80	16.33	1.20
Average	397	395	88.81	94.72	11.19	5.28

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905	
	1904	1905	1904	1905	1904	1905	1904	1905	Amt.	Per ct.
Apprentices	21	5	10	10	\$.751	\$.95	\$.075	\$.095	+	\$.199 26.50
Bagfitters	1	1	10	10	2.33	2.33	.238	.238	+	.000 0.00
Bagmakers	11	13	10	10	1.235	1.33	.124	.133	+	.096 7.63
Band-saw operators ..	1	1	10	10	2.50	2.50	.250	.250	+	.000 0.00
Boxmakers	8	19	10	10	1.813	1.798	.181	.180	—	.015 .83
Boxmullers	3	3	10	10	2.50	2.50	.250	.250	+	.000 0.00
Engineers	3	2	10	10	2.25	2.375	.225	.238	+	.125 5.55
Foremen	10	6	10	10	3.00	3.00	.300	.300	+	.000 0.00
Framers	2	2	10	10	1.875	1.875	.188	.188	+	.000 0.00
Handle makers, female	9	1	10	10	.987	1.50	.097	.150	+	.533 55.13
Helpers	48	39	10	10	1.249	1.009	.125	.107	—	.179 14.33
Helpers, female	25	78	10	10	.690	.723	.069	.073	+	.063 9.55
Iron cutters	1	1	10	10	2.00	1.90	.200	.190	—	.100 5.00
Laborers	30	30	10	10	1.45	1.45	.145	.145	+	.000 0.00
Leather cutters	40	37	10	10	1.73	1.867	.173	.187	+	.137 7.92
Liners	5	5	10	10	.75	.75	.075	.075	+	.000 0.00
Liners, female	67	23	10	10	.76	.846	.076	.085	+	.086 11.32
Lumber cutters	1	1	10	10	2.85	2.85	.285	.285	+	.000 0.00
Machine operators ..	12	6	10	10	1.722	1.125	.172	.113	—	.597 31.67
Machine operators, female	12	12	10	10	1.00	1.00	.100	.100	+	.000 0.00
Machinists	1	1	10	10	2.50	2.50	.250	.250	+	.000 0.00
Packers	4	3	10	10	1.875	2.053	.188	.208	+	.208 11.09
Painters	3	3	10	10	1.70	1.696	.170	.170	—	.004 .24
Stickers	1	1	10	10	2.50	2.50	.250	.250	+	.000 0.00
Stock clerks	2	1	10	10	1.675	1.35	.168	.135	—	.325 19.45
Suit case makers	32	28	10	10	1.784	1.961	.178	.196	+	.177 9.89
Suit case makers, female	1	2	10	10	1.25	1.25	.125	.125	+	.000 0.00
Teamsters	2	3	10	10	1.75	1.637	.175	.167	—	.082 4.74
Telescope makers	3	3	10	10	1.033	1.033	.103	.103	+	.000 0.00
Telescope makers, female	2	2	10	10	.96	.85	.096	.085	—	.110 11.46
Tray makers	1	1	10	10	1.75	1.75	.175	.175	+	.000 0.00
Trimmers	1	1	10	10	2.00	2.00	.200	.200	+	.000 0.00
Trunk finishers	30	33	10	10	2.155	2.126	.216	.213	—	.029 1.35
Trunk makers	69	35	10	10	1.644	1.88	.164	.188	+	.338 21.73
Watchmen	2	2	11	11	1.50	1.50	.136	.136	+	.000 0.00
Wood workers	10	10	10	10	1.85	2.01	.185	.201	+	.160 8.65
Total	422	421	10.01	10.01	\$1.431	\$1.46	\$.143	\$.146	+	\$.029 2.03

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.34 to \$.41.				4		4				\$.40		\$.40
.50 to .58.	5		25	7	30	7	\$.50		\$.50	.50	\$.50	.50
.59 to .66.		5		14		19		\$.612		.60		.608
.67 to .74.	7	2	6	9	13	11	.67	.67	.67	.67	.67	.673
.75 to .83.	10	9	40	43	50	52	.75	.75	.75	.75	.75	.75
.94 to .91.			9	3	9	3			.90	.90	.90	.90
.92 to .99.			1		1				.92	.92		
1.00 to 1.08.	16	20	21	36	37	56	1.000	1.000	1.000	1.000	1.000	1.000
1.09 to 1.16.	22	1			22	1	1.12	1.10			1.12	1.10
1.25 to 1.33.	31	33	1		32	33	1.276	1.282	1.25		1.275	1.282
1.34 to 1.41.	1	16			1	16	1.35	1.397			1.35	1.397
1.50 to 1.58.	46	25	1	2	47	37	1.50	1.50	1.50	1.50	1.50	1.50
1.59 to 1.66.	31	4			31	4	1.60	1.65			1.60	1.65
1.67 to 1.74.	6	9			6	9	1.685	1.687			1.685	1.687
1.75 to 1.83.	45	53			45	53	1.750	1.75			1.750	1.75
1.84 to 1.91.		26			26			1.90				1.90
2.00 to 2.08.	45	34			45	34	2.00	2.00			2.00	2.00
2.25 to 2.33.	30	28			30	29	2.208	2.261			2.268	2.261
2.50 to 2.56.	13	16			13	16	2.50	2.50			2.50	2.50
2.75 to 2.83.		2			2	2	2.75				2.75	
3.00 to 3.08.	10	7			10	7	3.00	5.00			3.00	3.00
3.25 to 3.33.		3			3	3		3.33				3.33
Total ...	318	303	104	118	422	421	\$1.649	\$1.72	\$.762	\$.792	\$1.431	\$1.46

Remarks.—The manufacture of trunks and valises is a natural outgrowth of the lumber, leather, and iron industries of the state. This industry shows a very satisfactory gain for 1905. There was an average increase of 4 per cent. in all items of investment, of 12 per cent. in the average number of days of operation, of 10 per cent. in the materials used, and of 6 per cent. in the output. Employment was very irregular in 1904, but much more uniform in 1905. The busy season for this industry was during the winter months. About one-quarter of the total number of employees were women. The majority of these worked in occupations peculiar to the industry. The hours of all employees except watchmen were 10 per day. The daily wages were considerably lower than the average wages for all industries, in spite of an increase of about 2 per cent. in 1905.

48. WAGONS—43 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	25	25		
Number of male partners	37	38	— 1	2.70
Number of female partners	4	4		
Total number of partners	41	40	— 1	2.44
Number of corporations	18	18		
Number of male stockholders	254	288	+ 34	13.39
Number of female stockholders	148	171	+ 25	17.12
Total number of stockholders	400	459	+ 59	14.75
Total number of partners and stockholders	441	499	+ 58	13.15
Smallest number of persons employed	2,417	2,615	+ 198	8.19
Greatest number of persons employed	2,692	2,922	+ 230	9.99
Average number of persons employed	2,480	2,772	+ 292	11.77
Average days in operation	291	300	+ 9	3.09

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$495,467 45	\$416,752 28	— \$78,715 17	15.89
Buildings and fixtures	1,009,588 23	917,376 08	— 152,212 17	14.23
Machinery, etc.,	604,263 23	545,679 80	— 58,613 43	9.70
Cash and other capital	4,448,970 02	4,424,061 42	— 24,308 00	0.55
Total	\$6,618,318 93	\$6,304,469 56	— \$313,849 37	4.74

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	1904.		1905.	
Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$2,572,781 29	\$3,328,393 91	+ \$795,587 52	30.92
Other material used	224,701 36	315,171 85	+ 90,470 49	40.26
Wages	1,199,468 11	1,425,641 58	+ 226,173 47	18.86
Salaries	265,186 10	303,918 02	+ 38,721 92	14.60
Profit and minor expenses ..	1,028,910 08	1,257,235 10	+ 228,325 02	22.19
Goods made and work done ..	5,291,057 04	6,670,335 46	+ 1,379,278 42	26.07

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Value of goods made and work done (gross product)	\$5,291,057 04	\$6,670,335 46
Value of stock used and other material consumed in production	2,797,482 75	3,683,540 76
Industry product (gross production less value of stock and material)	2,493,574 29	2,986,794 70
Wages and salaries (Labor's direct share of product)	1,464,664 21	1,729,559 60
Profit and minor expense fund (Industry product less wages)	1,028,910 08	1,257,235 10
Percentage of industry product paid in wages	Per cent. 58.74	Per cent. 57.91
Percentage of industry product devoted to profit and minor expenses	41.26	42.00

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,638 68	\$2,274 34	— \$394 34	14.78
Average product per employee	2,133 49	2,406 33	+ 272 84	12.79
Average yearly earnings	483 65	514 13	+ 30 47	6.30

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904	1905.
January	2,433	2,652	91.40	90.76	8.60	9.24
February	2,423	2,615	91.02	89.49	8.98	10.51
March	2,516	2,700	94.52	92.40	5.48	7.60
April	2,442	2,711	91.74	92.73	8.26	7.22
May	2,423	2,762	91.02	94.52	8.98	5.48
June	2,417	2,734	90.80	93.57	9.20	6.43
July	2,452	2,780	92.11	95.35	7.89	4.65
August	2,449	2,827	92.00	96.75	8.00	3.25
September	2,484	2,845	93.31	97.36	6.69	2.64
October	2,477	2,889	93.06	98.84	6.95	1.16
November	2,583	2,922	97.03	100.—	2.97	.....
December	2,632	2,907	100.—	96.49	.....	0.51
Average	2,480	2,772	93.16	94.87	6.84	5.13

TABLE IV—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt	Per ct.
Apprentices	9	7	10.00	9.71	\$.887	\$.538	\$.087	\$.055	—\$.331	88.18
Assemblers	18	21	10.00	10.00	1.670	1.678	.168	.168	+	.002
Bench hands	72	62	10.00	10.00	2.204	2.097	.22	.21	—	.107
Blacksmiths	224	221	9.98	9.98	2.325	2.415	.233	.242	+	.09
Blacksmiths' helpers	77	157	10.00	10.00	1.606	1.658	.161	.166	+	.052
Body makers	54	61	10.00	10.00	2.172	2.266	.217	.227	+	.094
Body makers' helpers	5	6	10.00	10.00	1.54	1.60	.154	.16	+	.06
Bookkeepers, female	1	1	7.00	8.00	.75	1.70	.107	.213	+	.96
Boxmakers	10	10	10.00	10.00	2.083	2.083	.208	.208	—	—
Boys	11	12	10.00	10.00	.777	.775	.078	.078	—	.002
Carpenters	144	74	10.00	10.00	1.902	1.882	.19	.183	—	.07
Craters	12	14	10.00	10.00	1.54	1.512	.154	.151	—	.028
Cutters	1	1	10.00	10.00	2.25	2.00	.225	.20	—	.25
Die makers	1	1	10.00	10.00	2.75	—	.275	—	—	—
Electricians	—	1	10.00	10.00	—	2.00	—	.20	—	—
Elevator men	6	6	10.00	10.00	1.25	1.25	.125	.125	—	—
Engineers	8	10	10.00	10.20	2.128	2.435	.213	.239	+	.27
Finishers	1	6	10.00	10.00	2.00	1.833	.20	.183	—	.167
Firemen	6	9	10.00	10.00	1.75	1.683	.175	.168	—	.067
Foremen	5	15	10.00	10.00	1.76	2.383	.176	.238	+	.623
Helpers	190	103	9.98	9.97	1.418	1.416	.142	.142	—	.002
Helpers, female	16	16	10.00	9.97	.855	.848	.086	.085	—	.007
Hub banders	—	1	10.00	10.00	—	5.00	—	.50	—	—
Inspectors	—	3	10.00	10.00	—	2.00	—	.20	—	—
Laborers	506	704	10.00	10.00	1.499	1.56	.15	.156	+	.061
Machine operators	346	271	10.00	10.00	1.777	1.811	.178	.181	+	.034
Machine operators' helpers	29	82	10.00	10.00	1.197	1.263	.12	.123	+	.066
Machinists	111	143	10.00	10.00	2.094	2.113	.209	.211	+	.019
Machinists' helpers	2	4	10.00	10.00	1.625	1.65	.163	.165	+	.026
Molders	13	13	10.00	10.00	1.923	1.84	.192	.184	—	.083
Molders' helpers	—	1	10.00	10.00	—	1.25	—	.125	—	—
Painters	381	404	9.98	9.97	2.17	2.267	.217	.227	+	.097
Painters' helpers	3	9	10.00	10.00	1.15	1.333	.115	.133	+	.183
Pattern makers	1	1	10.00	10.00	2.25	—	.225	—	—	—
Piece workers	10	10	10.00	10.00	2.02	—	.20	—	—	—
Shaft makers	—	3	10.00	10.00	—	2.00	—	.20	—	—
Shapers	—	76	10.00	10.00	—	1.803	—	.18	—	—
Shippers	80	20	10.00	10.00	1.748	1.825	.175	.183	+	.077
Spring makers	9	9	8.00	8.00	3.90	4.083	.488	.51	+	.188
Spring makers' helpers	12	12	8.00	8.00	2.004	2.125	.261	.266	+	.121
Steamfitters	4	5	10.00	10.00	2.00	2.14	.20	.214	+	.14
Steamfitters' helpers	2	3	10.00	10.00	1.50	1.50	.15	.15	—	—
Stitchers, female	13	12	10.00	10.00	1.323	1.283	.132	.129	—	.035
Teamsters	11	18	10.00	10.00	1.842	1.974	.184	.197	+	.132
Timekeepers	1	1	10.00	10.00	2.00	2.00	.20	.20	—	—
Tire setters	7	7	10.00	10.00	1.936	2.80	.194	.28	+	.864
Tire setters' helpers	6	7	10.00	10.00	1.25	1.25	.125	.125	—	—
Trimmers	78	79	10.00	10.00	2.16	2.498	.216	.25	+	.338
Trimmers, female	2	2	10.00	10.00	1.50	1.50	.15	.15	—	—
Trimmers' helpers	—	21	10.00	10.00	—	1.286	—	.129	—	—
Wagon makers	11	15	10.00	9.87	1.833	1.945	.183	.197	+	.112
Watchmen	6	8	10.00	10.25	1.778	1.79	.167	.176	+	.019
Wheelwrights	34	38	10.00	10.00	2.254	2.344	.225	.234	+	.09
Wheelwrights' helpers	4	12	10.00	10.00	1.25	1.25	.125	.125	—	—
Wood workers	42	72	9.98	9.96	1.923	1.753	.194	.176	—	.17
Total	2,600	2,513	9.98	9.96	\$1.841	\$1.88	\$.184	\$.188	+	\$.039

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons em- ployed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1904.		1904.		1904.		1904.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.42 to \$.49..	1	.....	.....	.....	1	.....	\$.45	.....	.....	.....	\$.45	.....
.50 to .58..	9	8	.....	.....	9	8	.50	.50	.....	.....	.50	.50
.59 to .66..	5	4	.....	1	5	5	.60	.60	.....	\$.60	.60	.60
.67 to .74..	8	3	1	.....	4	3	.67	.67	\$.67	.....	.67	.67
.75 to .83..	46	42	10	10	56	52	.75	.75	.75	.75	.75	.75
.84 to .91..	10	1	1	.....	11	1	.89	.85	.90	.....	.87	.85
1.00 to 1.08..	89	76	5	4	94	80	1.00	1.00	1.00	1.01	1.00	1.00
1.09 to 1.16..	6	8	2	1	8	4	1.12	1.13	1.13	1.09	1.13	1.12
1.17 to 1.24..	7	3	.....	.....	7	3	1.18	1.17	.....	.....	1.18	1.17
1.25 to 1.33..	108	143	.....	8	108	151	1.25	1.26	.....	1.25	1.27	1.26
1.34 to 1.41..	59	31	8	3	67	34	1.36	1.37	1.35	1.40	1.36	1.37
1.42 to 1.49..	1	.....	.....	.....	1	.....	1.45	.....	.....	.....	1.45	.....
1.50 to 1.58..	734	697	5	3	739	700	1.50	1.50	1.50	1.50	1.50	1.50
1.59 to 1.66..	97	103	.....	.....	97	103	1.62	1.62	.....	.....	1.62	1.62
1.67 to 1.74..	50	52	.....	1	50	53	1.67	1.67	.....	1.70	1.67	1.67
1.75 to 1.83..	308	424	.....	.....	308	424	1.75	1.75	.....	.....	1.75	1.75
1.84 to 1.91..	23	19	.....	.....	23	19	1.83	1.87	.....	.....	1.83	1.87
1.92 to 1.99..	7	.....	.....	.....	7	.....	1.94	.....	.....	.....	1.94	.....
2.00 to 2.08..	311	351	.....	.....	311	351	2.00	2.00	.....	.....	2.00	2.00
2.09 to 2.16..	37	8	.....	.....	37	8	2.10	2.13	.....	.....	2.10	2.13
2.17 to 2.24..	3	6	.....	.....	3	6	2.17	2.18	.....	.....	2.17	2.18
2.25 to 2.33..	156	250	.....	.....	155	250	2.25	2.25	.....	.....	2.25	2.25
2.34 to 2.41..	45	54	.....	.....	45	54	2.36	2.37	.....	.....	2.36	2.37
2.42 to 2.49..	.....	25	.....	.....	.....	25	.....	2.45	.....	.....	.....	2.45
2.50 to 2.58..	226	227	.....	.....	226	227	2.50	2.50	.....	.....	2.50	2.50
2.59 to 2.66..	27	33	.....	.....	27	33	2.60	2.60	.....	.....	2.60	2.60
2.67 to 2.74..	1	1	.....	.....	1	1	2.67	2.67	.....	.....	2.67	2.67
2.75 to 2.83..	71	81	.....	.....	71	81	2.73	2.75	.....	.....	2.73	2.75
2.84 to 2.91..	.....	1	.....	.....	.....	1	.....	2.95	.....	.....	.....	2.95
3.00 to 3.08..	76	60	.....	.....	76	60	3.00	3.00	.....	.....	3.00	3.00
3.09 to 3.16..	1	.....	.....	.....	1	.....	3.10	.....	.....	.....	3.10	.....
3.17 to 3.24..	3	2	.....	.....	3	2	3.20	3.17	.....	.....	3.20	3.17
3.25 to 3.33..	5	11	.....	.....	5	11	3.22	3.22	.....	.....	3.22	3.22
3.34 to 3.41..	3	.....	.....	.....	3	.....	3.40	.....	.....	.....	3.40	.....
3.50 to 3.58..	11	16	.....	.....	11	16	3.50	.....	.....	.....	3.50	.....
3.67 to 3.74..	1	.....	.....	.....	1	.....	3.70	.....	.....	.....	3.70	.....
4.00 to 4.08..	15	13	.....	.....	15	13	4.00	4.00	.....	.....	4.00	4.00
4.17 to 4.24..	3	.....	.....	.....	3	.....	4.20	.....	.....	.....	4.20	.....
4.25 to 4.33..	2	.....	.....	.....	2	.....	4.30	.....	.....	.....	4.30	.....
4.50 to 4.58..	5	15	.....	.....	5	15	4.50	4.50	.....	.....	4.50	4.50
5.00 to 5.08..	2	3	.....	.....	2	3	5.00	5.00	.....	.....	5.00	5.00
6.00 to 6.08..	1	1	.....	.....	1	1	6.00	6.00	.....	.....	6.00	6.00
7.00 to 7.08..	1	.....	.....	.....	1	.....	7.00	.....	.....	.....	7.00	.....
Total ...	2,568	2,757	32	31	2,600	2,818	\$1.85	\$1.89	\$1.02	\$1.06	\$1.84	\$1.88

Remarks.—The census of 1900 gave Wisconsin seventh place among the states in the value of the output of this industry. The tables show that a marked growth was experienced in the two years covered by the report. This is indicated by the increase in 1905 of 12 per cent. in the number of employees, of 31 per cent. in the materials used, of 18 per cent. in the total wages and salaries paid, and of 26 per cent. in the output. The

average yearly earnings also show a gain of 6 per cent. The apparent average decrease of 5 per cent. in all items of investment is, in view of these increases, probably due to an error in reporting the actual value of the land, buildings, and machinery in one or both of the two years. Employment was quite uniform from month to month. Less than 2 per cent. of the total number of employees were females. The majority of these were employed in the regular occupations of the industry. Their average daily wages were considerably higher than the average for women in all industries.

49. WOODENWARE—6 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	3	3		
Number of male partners	6	6		
Number of female partners				
Total number of partners	6	6		
Number of corporations	3	3		
Number of male stockholders	19	29	+ 10	52.63
Number of female stockholders	14	11	— 3	21.43
Total number of stockholders	33	40	+ 7	21.21
Total number of partners and stockholders	39	46	+ 7	17.95
Smallest number of persons employed	814	832	+ 18	2.21
Greatest number of persons employed	1,183	1,020	— 163	13.78
Average number of persons employed	1,061	939	— 122	11.50
Average days in operation	263	277	+ 11	4.14

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Land	\$85,642 00	\$72,500 00	+ \$13,142 00	10.45
Buildings and fixtures	119,635 00	121,850 00	+ 2,215 00	1.85
Machinery, etc.,	48,040 00	48,400 00	+ 360 00	0.75
Cash and other capital	209,564 00	199,560 00	— 10,004 00	4.78
Total	\$442,881 00	\$442,300 00	— 581 00	0.13

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wares and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$718,256 04	\$686,389 32	— \$31,866 72	11.40
Other material used	54,043 77	50,192 35	— 3,851 42	7.13
Wages	433,473 59	332,307 33	— 101,166 26	11.80
Salaries	45,185 00	34,675 00	— 10,490 00	23.17
Profit and minor expenses ...	329,395 14	295,630 20	— 33,764 94	10.25
Goods made and work done .	1,580,303 54	1,399,194 20	— 181,109 34	11.46

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$1,580,303 54	\$1,399,194 20
Value of stock used and material consumed in pro- duction	772,239 81	686,581 67
Industry product (gross production less value of stock and material)	808,063 73	712,612 53
Wages and salaries (Labor's direct share of product)	478,609 59	410,982 33
Profit and minor expense fund (Industry product less wages)	329,395 14	295,630 20
Percentage of industry product paid in wages.....	Per cent. 59.23	Per cent. 58.51
Percentage of industry product devoted to profit and minor expenses	40.77	41.49

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or de- crease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$4,174 25	\$4,710 33	+\$536 08	12.84
Average product per employee.....	1,439 45	1,490 09	+ 0 64	0.04
Average yearly earnings	408 55	407 13	— 1 42	0.35

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	1,019	857	88.14	84.08	13.86	15.98
February	1,114	839	94.17	81.87	5.83	18.13
March	1,154	868	97.55	85.10	2.45	14.90
April	1,162	908	98.23	89.02	1.77	10.98
May	1,159	902	97.97	88.43	2.03	11.57
June	1,183	913	100.—	89.51	—	10.49
July	1,096	996	92.56	97.55	7.44	2.45
August	1,087	1,007	91.89	98.73	8.11	1.27
September	1,081	1,080	91.33	100.—	8.62	—
October	1,024	992	86.56	97.26	13.44	2.74
November	843	997	71.18	97.75	28.82	2.25
December	814	973	68.81	96.88	31.19	4.13
Average	1,061	939	89.89	92.06	10.31	7.94

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	2	2	9	9	\$2.00	—	\$2.22	—	—	—
Blacksmiths	8	3	10	—	\$2.50	2.50	\$2.50	.25	—	—
Boys	4	11	9.78	9.64	.875	.75	.088	.078	—	\$.125 14.39
Carpenters	14	10	10	10	2.038	2.25	.204	.225	+	.214 10.51
Coopers	100	100	10	10	2.00	2.00	.20	.20	—	—
Engineers	9	9	10	10	2.40	2.43	.24	.243	+	.030 1.25
Firemen	11	11	10	8.18	1.56	1.590	.156	.192	+	.009 .57
Foremen	3	5	10	10	1.917	1.88	.192	.188	—	.037 1.93
Handle finishers	4	4	10	10	1.50	1.50	.15	.15	—	—
Headers	140	140	10	10	1.85	1.68	.185	.168	—	—
Helpers	1	13	10	7	1.50	1.458	.15	.146	—	.042 2.8
Hoopers	14	14	10	7	2.50	2.50	.25	.257	—	—
Hoopers' helpers	40	40	10	7	1.50	1.50	.15	.214	—	—
Laborers	72	341	9.97	10	1.362	1.432	.137	.148	—	.120 8.81
Lathers	120	122	10	7.05	1.50	1.50	.15	.213	—	—
Machine tenders	367	10	10	10	1.496	1.54	.15	.154	+	.044 2.94
Machinists	4	6	10	10	2.313	2.058	.231	.206	—	.255 11.02
Millwrights	5	5	10	10	2.80	2.80	.28	.28	—	—
Painters	50	50	10	10	1.50	1.50	.15	.15	—	—
Pattern makers	7	3	9	9	8.420	4.00	.381	.444	+	.571 16.65
Sanders	2	2	10	—	1.50	—	.15	—	—	—
Saw filers	2	2	10	—	1.60	—	.16	—	—	—
Sawyers	13	13	10	10	2.00	2.00	.20	.20	—	—
Stave pillars	25	25	10	10	1.50	1.50	.15	.15	—	—
Teamsters	42	41	10	10	1.50	1.507	.15	.151	+	.007 .47
Turners	31	30	10	7	2.468	2.50	.247	.267	+	.063 1.80
Warehousemen	12	12	10	10	1.75	1.75	.175	.175	—	—
Watchmen	4	4	10	10	1.75	1.75	.175	.175	—	—
Yardmen	4	4	10	10	1.45	—	.145	—	—	—
Total	1,095	1,031	9.99	9.38	\$1.642	\$1.654	\$.164	\$.176	+	\$.012 .73

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.50 to \$.58	1	2			1	2	\$.50	\$.50			\$.50	\$.50
.67 to .74		3				3		.70				.70
.75 to .83	1	4			1	4	.80	.763			.80	.763
.84 to .91		1				1		.90				.90
1.00 to 1.08	13	6			13	6	1.008	1.00			1.008	1.00
1.09 to 1.16		1				1		1.15				1.15
1.17 to 1.24		2				2		1.20				1.20
1.25 to 1.33	15	6			15	5	1.273	1.28			1.273	1.28
1.34 to 1.41	21	23			31	22	1.39	1.38			1.39	1.38
1.42 to 1.49	5	15			5	15	1.45	1.45			1.45	1.45
1.50 to 1.58	659	597			659	597	1.50	1.501			1.50	1.501
1.59 to 1.66	154	155			154	155	1.645	1.645			1.645	1.645
1.75 to 1.83	20	19			20	19	1.75	1.753			1.75	1.753
1.84 to 1.91	8	4			8	4	1.87	1.878			1.87	1.878
2.00 to 2.08	119	122			119	122	2.00	2.00			2.00	2.00
2.25 to 2.33	15	15			15	15	2.25	2.25			2.25	2.25
2.50 to 2.58	52	50			52	50	2.50	2.50			2.50	2.50
3.75 to 3.83	5				5		3.80				3.80	
4.00 to 4.08		5				5		4.00				4.00
5.00 to 5.08	1	1			1	1	5.00	5.00			5.00	5.00
6.00 to 6.08	1	1			1	1	6.00	6.00			6.00	6.00
Total	1,095	1,021			1,095	1,021	\$1.642	\$1.654			\$1.642	\$1.654

Remarks.—The manufacture of woodenware, like the allied industry of staves and headings, seems to have suffered a considerable loss in 1905. It is very possible that in the case of this industry the loss was due partly to the impossibility of securing the usual number of employees during the busy season, owing to the low wages paid. The decrease of 12 per cent. in the average number of employees was followed by a decrease of 11 per cent. in the materials used, of 13 per cent. in the total wages and salaries paid, and of 11 per cent. in the value of the output. There was also a slight loss in the average yearly earnings of employees. Employment was somewhat irregular, summer being the season of greatest activity in this industry. No female help was employed.

50. WOOLEN GOODS—10 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	3	3		
Number of male partners.....	6	7	+ 1	16.67
Number of female partners.....	3	3		
Total number of partners.....	9	10	+ 1	11.11
Number of corporations.....	7	7	+ 2	28.57
Number of male stockholders.....	57	57		
Number of female stockholders.....	18	18		
Total number of stockholders.....	75	75		
Total number of partners and stockholders..	84	85	+ 1	1.19
Smallest number of persons employed.....	707	606	— 41	5.80
Greatest number of persons employed.....	757	733	— 24	3.17
Average number of persons employed.....	730	704	— 28	3.56
Average number of days in operation.....	294	292	— 2	0.63

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$81,850 00	\$30,725 00	— \$1,125 00	1.37
Buildings and fixtures	165,493 50	151,203 50	— 14,200 00	8.58
Machinery, etc.	354,226 05	335,808 49	— 18,417 56	5.20
Cash and other capital.....	638,990 98	520,769 21	— 118,221 77	18.50
Total	\$1,240,560 02	\$1,086,596 29	— \$151,964 83	12.25

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$347,858 40	\$361,918 52	+ \$14,060 12	1.66
Other material used	104,325 99	107,436 65	+ 3,100 67	3.03
Wages	238,340 54	229,329 93	— 9,016 61	3.73
Salaries	57,244 00	56,745 00	— 499 00	0.87
Profit and minor expenses....	231,311 43	235,837 77	+ 4,526 34	1.96
Goods made and work done..	\$1,479,086 35	\$1,491,817 87	+ \$12,231 52	0.83

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$1,479,036 35	\$1,401,317 87
Value of stock used and material consumed in production	952,184 38	909,405 17
Industry product (gross production less value of stock and material)	526,901 97	521,912 70
Wages and salaries (Labor's direct share of product)	295,500 54	289,074 93
Profit and minor expense fund (Industry product less wages)	231,311 43	235,837 77
Percentage of industry product paid in wages.....	Per cent. 56.10	Per cent. 54.81
Percentage of industry product devoted to profit and minor expenses	43.90	45.19

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, -, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee.....	\$1,639 40	\$1,546 30	-\$153 10	9.01
Average product per employee.....	2,026 15	2,104 14	+ 77 99	3.85
Average yearly earnings	326 50	325 75	- 0 75	0.23

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904	1905.
January	753	705	99.34	96.18	0.63	3.82
February	741	731	97.89	99.73	2.11	0.27
March	757	733	100.—	100.—		
April	751	731	99.21	99.73	0.79	0.27
May	742	723	98.02	98.64	1.98	1.33
June	719	651	94.96	92.91	5.02	7.09
July	719	699	94.96	90.89	5.02	9.14
August	712	682	94.06	94.54	5.94	5.46
September	708	692	93.53	94.41	6.47	5.59
October	707	694	93.39	93.32	6.61	6.68
November	734	695	96.96	94.93	3.04	5.07
December	721	708	95.25	96.59	4.75	3.41
Average	730	704	96.43	96.04	3.57	3.96

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1901.	1905.	1904.	1905.	1904	1905.	1901.	1905.	Amt.	Per ct	
Apprentices	2	2	10	10	\$.985	\$.65	\$.069	\$.06	— \$.26	31.01	
Balers, female	6		10		.50		.05				
Bookkeepers	1	1	10	10	1.75	2.00	.175	.20	+	.25	14.20
Bookkeepers, female		1		10		2.00		.20			
Burlers, female		6		10		.783		.078			
Carders	16	14	10	10	1.611	1.34	.161	.134	—	.271	16.82
Carders, female	9	4	10	10	.681	.60	.068	.06	—	.061	11.89
Carpenters	2	2	10	10	2.50	2.50	.25	.25			
Combers, female	9	5	10	10	.739	.78	.074	.078	+	.022	2.97
Drawers, female	32	25	10	10	.715	.694	.072	.069	—	.021	2.91
Dressers	5	4	10	10	1.702	1.783	.170	.169	—	.012	.71
Dryers		1		10		1.50		.15			
Dyers	9	19	10	10	1.691	1.54	.166	.154	—	.121	7.29
Dyers, female	2				.50		.05				
Engineers	3	4	10	10.25	2.133	1.876	.213	.188	—	.267	19.05
Filling carriers	1	1	10	10	1.00	1.00	.10	.10			
Finishers	10	5	10	10	1.48	2.20	.146	.22	+	.74	50.69
Finishers, female	5	11	10	10	.874	.773	.087	.077	+	.090	14.69
Firemen	5	5	10	10	1.766	1.816	.177	.182	+	.05	2.83
Foremen	25	25	10	10	2.914	2.85	.291	.285	—	.094	2.20
Fullers	1	2	10	10	1.60	1.81	.16	.181	+	.21	13.12
Helpers	34	25	10	10	1.222	1.293	.122	.129	+	.071	5.81
Helpers, female	49	29	10	10	.652	.704	.065	.07	+	.052	7.93
Laborers	51	47	10	10.47	1.347	1.383	.135	.137	+	.036	2.67
Laborers, female	13	28	10	10.82	.881	.922	.088	.076	—	.059	6.70
Loom fixers	3	1	10	10	2.06	2.18	.206	.213	+	.07	3.40
Machine tenders	96	63	10	10	1.24	1.126	.124	.113	—	.114	9.12
Machine tenders, female	94	87	10	10	9.11	.911	.091	.091			
Machinists	8	5	10	10	2.058	2.05	.205	.205	—	.008	.39
Packers	2	3	10	10	.775	.987	.078	.097	+	.192	24.77
Packers, female	2	1	10	10	.79	.85	.079	.085	+	.06	7.85
Pickers	2	2	10	10	1.50	1.475	.15	.148	—	.085	1.67
Piece workers	8	9	10	10	1.58	1.13	.158	.113	—	.45	28.48
Piece workers, female	15	13	10	10	1.24	1.13	.124	.113	—	.11	8.87
Press tenders, female		2		10		.80		.08			
Reelers, female	14	6	10	10	.815	1.05	.082	.105	+	.235	28.83
Sewers, female	5	10	10	10	1.64	.922	.164	.092	—	.713	43.78
Shearers	2					1.00		.10			
Shearers, female		1		10		1.00		.10			
Shipping clerks	1	1	10	10	1.50	1.90	.150	.19	+	.40	26.67
Sorters	11	8	10	10	1.927	2.125	.193	.213	+	.198	10.23
Speckers, female		4		10		.70		.07			
Spinners	4	7	10	10	1.43	1.324	.143	.132	—	.106	7.41
Spinners, female	49	59	10	10.10	.626	.699	.063	.069	+	.073	11.66
Spoolers, female	4	14	10	10	.50	.659	.05	.066	+	.159	31.8
Stock clerks	1		10		1.25		.125				
Teamsters	2	3	10	10	2.125	2.193	.213	.219	+	.008	3.2
Twisters	1	1	10	10	.75		.075				
Twisters, female	29	27	10	10	.713	.698	.071	.07	—	.015	2.10
Warpers	2	2	10	10		1.75		.175			
Washers	2	5	10	10	1.65	1.54	.165	.154	—	.11	6.67
Watchmen	5	6	10.60	11	1.404	1.378	.139	.125	—	.093	1.85
Weavers	18	21	10	10.48	1.417	1.392	.142	.13	—	.065	5.83
Weavers, female	88	76	0	10.12	1.315	1.166	.132	.116	—	.149	11.33
Winders, female	9	12	0	10	.589	.577	.059	.068	—	.012	2.04
Total	700	723	0	10.16	\$1.162	\$1.133	\$.116	\$.112	— \$.029	2.50	

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.42 to \$.49.....			6	7	6	7			\$.45	\$.45	\$.45	\$.45
.50 to .58.....	2	9	44	53	53	53	\$.50	\$.50	.50	.50	.50	.50
.59 to .66.....	7	7	53	70	60	77	.621	.643	.616	.625	.617	.623
.67 to .74.....			60	30	60	39			.699	.70	.696	.70
.75 to .83.....	24	20	84	97	108	117	.75	.75	.75	.75	.75	.75
.84 to .91.....	12	7	40	30	52	37	.85	.85	.858	.833	.856	.871
.92 to .99.....	1		4	2	5	2	.95		.928	.95	.933	.95
1.00 to 1.08.....	18	13	30	58	45	71	1.00	1.00	1.00	1.00	1.00	1.00
1.09 to 1.16.....	19	27	10	32	28	59	1.127	1.125	1.10	1.117	1.117	1.121
1.17 to 1.24.....		2	2	2	2	4		1.20	1.20	1.185	1.20	1.193
1.25 to 1.33.....	55	35	11	3	66	38	1.25	1.252	1.25	1.25	1.25	1.25
1.34 to 1.41.....	26	17	27	35	53	52	1.368	1.364	1.352	1.39	1.36	1.381
1.42 to 1.49.....			1		1				1.45		1.45	
1.50 to 1.59.....	68	55	46	5	114	60	1.509	1.50	1.514	1.50	1.511	
1.59 to 1.66.....	11	31			11	31	1.627	1.65			1.627	1.65
1.67 to 1.74.....	3	2	3		6	2	1.69	1.69	1.70		1.695	1.695
1.75 to 1.83.....	16	9		3	16	12	1.756	1.759		1.75	1.756	1.757
1.84 to 1.91.....	3	5			3	5	1.85	1.863			1.85	1.863
2.00 to 2.08.....	17	20	2	1	19	21	2.003	2.002	2.00	2.00	2.005	2.003
2.09 to 2.16.....	2	1			2	2	2.125	2.13		2.10	2.125	2.115
2.17 to 2.24.....	6		2		2		2.20		2.20		2.20	
2.25 to 2.33.....	4	11		1	4	12	2.25	2.25		2.25	2.25	2.25
2.34 to 2.41.....	1			2	1	2	2.35			2.375	2.35	2.375
2.50 to 2.58.....	6	12	1		7	12	2.50	2.50	2.50		2.50	2.50
2.59 to 2.66.....		2			2	2		2.60				2.60
2.75 to 2.83.....	9	6			9	6	2.75	2.75			2.75	2.75
2.84 to 2.91.....	1	1			1	1	2.87	2.88			2.87	2.88
3.00 to 3.08.....	6	1			6	1	3.00	3.00			3.00	3.00
3.09 to 3.16.....	1				1			3.13			3.13	
3.25 to 3.33.....	4	2			4	2	3.25	3.25			3.25	3.25
3.34 to 3.41.....	1				1			3.40			3.40	
3.50 to 3.58.....	4	4			4	4	3.50	3.50			3.50	3.50
3.75 to 3.83.....	1				1			3.83			3.83	
5.00 to 5.08.....		1				1		5.00			5.00	
Total	327	300	433	423	760	723	\$1.521	\$1.517	\$.891	\$.861	\$1.162	\$1.133

Remarks.—This industry has for several years been decreasing in importance in Wisconsin, owing to the decrease in sheep-raising in the state, and to the distance which it is necessary to bring the raw material from other states. For 1905 there was an average decrease of 12 per cent. in all items of investment and of 4 per cent. in the number of employees and in the total wages and salaries paid. There was however a slight increase in the value of the materials used and of the output. Labor's share of the industry product was moderate—56 per cent. Employment was remarkably uniform, unemployment averaging less than 4 per cent. each year. Over half of the total number of employees were females. They were employed in the regular

occupations of the industry. They received about the average daily wages for women in all industries, in 1904, but about 3 per cent. less in 1905. Men's wages were much lower each year than the average for men in all industries. The hours both of men and of women were slightly over 10 per day.

51. MISCELLANEOUS—48 ESTABLISHMENTS.

TABLE I.—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	18	17	— 1	5.56
Number of male partners	28	26	— 2	7.14
Number of female partners				
Total number of partners	28	26	— 2	7.14
Number of corporations	30	31	+ 1	3.33
Number of male stockholders	336	319	— 17	5.03
Number of female stockholders	45	49	+ 4	8.89
Total number of stockholders	381	368	— 13	3.41
Total number of partners and stockholders	409	394	— 15	3.67
Smallest number of persons employed	1,801	1,967	+ 166	9.22
Greatest number of persons employed	2,321	2,547	+ 226	9.74
Average number of persons employed	2,083	2,197	+ 114	5.47
Average days in operation	296	293	— 3	1.01

TABLE II.—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease —, in 1905	
	1904.	1905.	Amount.	Per cent
Land	\$528,871 54	\$548,961 00	+ 320,000 45	3.80
Buildings and fixtures	724,626 92	725,172 54	+ 545 62	0.08
Machinery, etc.,	901,086 00	957,084 45	+ 55,998 45	6.21
Cash and other capital	2,213,420 30	2,224,037 31	+ 10,617 01	0.43
Total	\$4,368,004 76	\$4,455,270 29	+ \$87,271 53	2.00

TABLE III A—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$2,899,752 22	\$2,019,841 73	— \$280,910 49	9.60
Other material used	475,198 82	406,763 48	— 68,435 34	13.98
Wages	977,421 50	1,020,671 06	+ 42,640 56	4.36
Salaries	209,162 50	234,429 47	+ 25,266 97	12.06
Profit and minor expenses ...	772,487 33	624,250 81	— 148,236 52	19.19
Goods made and work done ..	5,334,022 37	4,906,356 55	— \$427,665 82	8.02

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made or work done (gross product)	\$5,334,022 37	\$4,906,356 55
Value of stock used and material consumed in production	3,374,951 04	3,027,605 21
Industry product (gross production less value of stock and material)	1,959,071 33	1,878,751 34
Wages and salaries (Labor's direct share of product)	1,186,534 00	1,254,500 53
Profit and minor expense fund (Industry product less wages)	772,487 33	624,250 81
Percentage of industry product paid in wages	Per cent. 65.69	Per cent. 66.77
Percentage of industry product devoted to profit and minor expenses	34.31	33.23

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product, and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,096 98	\$2,027 80	— \$69 09	3.29
Average product per employee	2,560 74	2,223 21	— 337 53	13.18
Average yearly earnings	469 23	464 30	— 4 93	1.05

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	2,051	2,020	88.37	79.31	11.63	20.69
February	2,069	2,046	89.14	80.33	10.86	19.67
March	2,040	2,147	87.89	84.29	12.11	15.71
April	2,118	2,106	91.25	85.04	8.75	14.96
May	2,071	2,173	89.28	85.32	10.72	14.68
June	2,039	2,164	87.85	84.96	12.15	15.04
July	1,601	1,967	77.59	77.23	22.41	22.77
August	1,859	2,021	80.09	79.35	19.91	20.65
September	2,165	2,343	83.41	91.96	6.59	8.06
October	2,199	2,387	94.74	93.72	5.26	6.28
November	2,321	2,547	100.—	100.—	—	—
December	2,257	2,985	97.24	96.64	2.76	6.36
Average	2,082	2,197	89.76	86.26	10.24	13.74

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	11	16	9.20	9.84	\$.801	\$.853	\$.087	\$.087	+ \$.052	6.04
Apprentices, female		20		9.13		.850		.084		
Assemblers		2		9.50		2.615		.275		
Beamsters	4	4	10	10	1.41	1.50	.141	.15	+ .09	6.38
Revelers	22	21	9	9	2.058	2.06	.229	.229	+ .002	.01
Blacksmiths	22	11	10	10	2.518	2.536	.252	.251	+ .019	.71
Bleachers	2	2	10	10	1.45	1.45	.145	.145		
Blockers	14	14	10	10	2.875	2.875	.288	.288		
Boiler makers	2	4	10	10	2.25	2.635	.225	.263	+ .375	16.67
Book binders	11	10	9	9	1.986	2.073	.221	.230	+ .067	4.38
Bottlers	1	26	10	10	.50	.637	.05	.034	+ .137	27.40
Bottlers, female	17		10		.657		.066			
Bottom makers		2		10		2.00		.20		
Box makers	5	11	10	10	1.683	1.773	.169	.177	+ .085	5.01
Boys	25	50	9.96	9.98	.938	.966	.094	.097	+ .080	8.21
Brush makers	8	8	10	10	1.456	1.456	.146	.146		
Bulldozers		1		10		3.00		.30		
Burr pickers		1		10		1.75		.175		
Button makers		9		10		1.25		.125		
Captains	10	11	10.60	11.64	2.964	3.747	.28	.322	+ .783	26.42
Carders	1	1	10	10	2.50	2.50	.25	.25		
Carders, female	36		10		.67		.067			
Carpenters	69	74	10	10	1.825	1.989	.183	.199	+ .161	8.10
Carvers	1	1	10	10	3.00	3.00	.30	.30		
Chargers	5	1	10	10	1.60	1.70	.16	.17	+ .10	6.25
Chemists	2	1	10	10	7.50	6.00	.075	.60	— 1.50	22.00
Clerks		1		10		1.75		.175		
Compounders		1		10		2.90		.29		
Conveyors	1	2	10	10	1.60	1.00	.16	.16		
Cooks	5	3	11.20	12	1.026	1.33	.098	.111	+ .232	21.13
Coopers	6	12	10	10	1.786	1.819	.179	.182	+ .061	1.12
Core makers	1	1	10	10	2.50	2.50	.25	.25		
Cupola tenders	1	1	10	10	3.00	2.33	.30	.233	— .67	22.33
Cutters	55	50	9.95	9.76	1.809	1.912	.182	.196	+ .103	5.69
Designers		2				3.33		.426		
Distillers	2	2	10	10	1.96	1.96	.196	.196		
Dock men	6	8	10	10	2.00	2.50	.20	.25	+ .50	25.00
Dressers		35		10		3.00		.30		
Dryers	2	2	10	10	1.025	1.60	.163	.16	— .025	1.54
Dry-house men	4		10		1.50		.15			
Dyers	3	3	10	10	1.917	1.917	.192	.192		
Electricians	1		10		1.75		.175			
Elevator men	4	1	10	10	1.875	1.00	.188	.10	— .375	27.27
Engineers	31	22	10.29	10.34	2.373	2.639	.231	.246	+ .296	12.47
Extractors	1	1			1.63		.16			
Feeders, female	3	3	10	9	.60	.58	.06	.064	— .02	3.33
Feltmen	1	1	10	10	1.10	1.10	.11	.11		
Finishers	2	9	9	9.50	3.33	2.242	.37	.236	— 1.088	32.07
Finishers, female	15	29	9	9.25	.50	.560	.050	.06	+ .056	11.20
Firemen	26	30	10.74	10.77	1.829	1.926	.17	.179	+ .097	5.30
Fishermen	52	108	10.28		2.172	2.316	.211	.232	+ .144	6.81
Fish dressers	20		9.83		2.50		.253			
Filters	1	2	10	10	3.00	2.375	.30	.238	— .625	20.83
Folders, female	5	6	10	9.07	.521	.598	.052	.056	+ .077	14.73
Foremen	7	10	9.25	9.30	2.721	2.625	.283	.268	— .090	8.53
Forewomen	4		10		.71		.071			
Forgers	1	1	10	10	3.00	3.25	.30	.325	+ .25	8.33
Freezer men	20	25	10	10	2.00	2.50	.20	.25	+ .50	25.00
Gear ironers		11		10		2.055		.206		
Glass blowers	100	100	3.50	.850	6.422	6.630	.750	.751	+ .217	33.80
Glaziers	9	7	9	9	2.222	1.93	.247	.213	— .292	13.14
Grinders	8	8	10	10	2.156	2.330	.216	.234	+ .183	8.49
Hammer men		2		10		2.875		.288		

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES—Continued.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	P. c t.	
Helpers	286	247	9.30	9.17	1.181	1.119	.127	.122	—	.002	5.25
Helpers, female	30	36	10	10	.761	.89	.076	.089	+	.129	16.95
Hub banders	1	1	10	10	2.50	2.50	.25	.25	—	—	—
Inspectors	2	6	10	10	2.375	2.05	.238	.205	—	.325	13.63
Inspectors, female	5	4	9.75	9.17	1.132	1.20	.116	.131	+	.065	6.01
Instructors	2	2	9.25	9.25	1.275	1.275	.128	.138	—	—	—
Ironers, female	2	2	9.25	9.25	.83	.83	.09	.09	—	—	—
Janitors	1	1	10	10	1.75	1.75	.175	.175	—	—	—
Janitors, female	1	1	10	10	1.00	1.00	.10	.10	—	—	—
Knitters, female	28	22	9	9	.83	.75	.082	.083	—	.06	9.64
Laborers	361	326	10.00	10.15	1.702	1.773	.175	.172	+	.011	6.24
Laborers, female	78	78	10	10	.680	.680	.068	.068	—	—	—
Limb builders	1	2	10	10	2.00	3.75	.20	.375	+	1.15	44.23
Lining makers, female	1	0	9.50	9.50	.880	.880	.088	.088	—	—	—
Linemen	1	1	10	10	1.60	1.60	.15	.15	—	—	—
Machine hands	120	152	9.85	10	1.657	1.457	.163	.146	—	.20	12.07
Machine hands, female	97	138	9.94	9.25	1.534	1.256	.154	.136	—	.278	18.12
Machinists	24	41	9.88	9.70	2.363	2.422	.239	.248	+	.059	2.70
Mashers	1	1	10	10	1.73	2.10	.173	.21	+	.37	21.39
Maters	2	2	10	10	2.00	2.00	.20	.20	—	—	—
Millers	3	2	10	10	1.863	3.00	.186	.30	+	1.137	61.08
Mill men	1	1	10	10	1.70	1.70	.170	.170	—	—	—
Molders	6	14	10	10	2.139	2.375	.214	.238	+	.236	11.06
Molders	4	4	12	12	1.50	1.50	.125	.125	—	—	—
Net men	4	1	10	10	2.00	2.00	.20	.20	—	—	—
Oilers	6	5	10	10	1.833	2.00	.183	.20	+	.167	9.11
Painters	22	17	10.00	10.12	1.70	1.525	.169	.151	—	.175	10.29
Painters, female	1	2	10	9	.90	.95	.09	.106	+	.05	5.55
Pattern makers	33	25	9.97	9.97	1.655	1.422	.166	.143	—	.233	14.06
Pattern makers	10	10	10	10	2.90	2.945	.29	.295	+	.045	1.55
Perforators, female	1	1	10	10	.90	.90	.09	.09	—	—	—
Picklers	1	1	10	10	2.00	2.00	.20	.20	—	—	—
Pilers	1	15	10	10	1.50	1.50	.15	.15	—	—	—
Planers	2	2	10	10	2.00	2.00	.20	.200	—	—	—
Platers	4	1	9.50	9	2.00	2.50	.211	.278	+	.50	25.00
Pole makers	1	1	10	10	3.00	3.00	.30	.30	—	—	—
Polishers	18	16	9.28	9.31	1.753	1.815	.189	.186	+	.06	3.54
Pressers	7	13	10	9.47	1.16	1.676	.161	.17	+	.066	4.10
Pressmen	23	13	9.57	10	1.635	2.038	.171	.204	+	.408	24.65
Raspers	2	2	10	10	1.75	1.75	.175	.175	—	—	—
Reed workers	25	26	10	10	1.24	1.187	.124	.119	—	.053	4.27
Reed workers, female	11	11	10	10	.805	.805	.081	.081	—	—	—
Repairers	2	2	10	10	1.75	1.75	.175	.175	—	—	—
Rimmers	4	3	10	10	2.875	3.00	.288	.30	+	.125	4.35
Riveters	1	1	10	10	3.00	3.00	.30	.30	—	—	—
Roasters	1	1	10	10	3.00	3.00	.30	.30	—	—	—
Rubbers	1	1	10	10	2.50	2.50	.25	.25	—	—	—
Rulers	4	4	9	9	1.885	2.003	.209	.223	+	.118	6.36
Rulers, female	11	11	10	10	.727	.727	.073	.073	—	—	—
Sailors	5	5	10	10	1.50	1.50	.15	.15	—	—	—
Salters	8	10	10	10	2.00	2.25	.20	.225	+	.25	25.00
Sanders	6	5	10	10	1.625	1.35	.163	.135	—	.275	16.92
Sawyers	2	2	10	10	2.125	2.125	.213	.213	—	—	—
Sent makers	1	1	10	10	2.50	2.75	.25	.275	+	.25	10.00
Selectors	1	1	9	9	1.75	1.75	.175	.175	—	—	—
Setters	12	12	10	10	1.50	1.50	.15	.15	—	—	—
Sewers, female	173	154	9.41	9.21	.801	.883	.081	.101	+	.132	16.48
Shapers	4	5	10	10	2.158	2.176	.216	.218	+	.018	.83
Shearers	1	1	10	10	2.50	2.50	.25	.25	—	—	—
Shipping clerks	8	10	9.85	10	1.958	1.90	.198	.19	—	.068	9.96
Silverers	3	3	9	9	2.167	2.167	.241	.241	—	—	—
Sizers	12	12	10	10	1.75	1.75	.175	.175	—	—	—

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES—continued.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Shore men	2	10			1.35		.135			
Soap makers		1	10		3.00		.30			
Sorters, female		6	9.17		.77		.086			
Spinnners	1	2	10	10	1.75	2.00	.20	.20	+	25
Spirit runners	1	1	10	10	3.00	3.00	.30	.30		
Spoke drivers	1	1	10	10	2.50	3.00	.25	.80	+	50
Steam fitters	1	3	10	10	1.78	1.897	.173	.190	+	197
Stock men	3	3	10	10	1.833	1.833	.133	.133		
Strippers	4	4	10	10	2.50	3.00	.25	.30	+	50
Teamsters	24	28	9.02	9.96	1.653	1.741	.167	.175	+	088
Temperers	1	1	10	10	2.50	2.75	.25	.275	+	25
Tire setters	2	17			2.50		.25			
Trimmers	7	7	10	9.68	.651	.604	.065	.06	—	047
Trimmers, female	106	100	10	10	1.328	1.328	.133	.133		
Upholsterers	2	2	10	10	1.29	1.335	.129	.134	+	045
Upholsterers, female.	15	15	10	10	.592	.593	.059	.057	—	024
Warehousemen	5	1	10	10	2.332	1.83	.233	.138	—	502
Washers	4	5	10	10	1.739	1.71	.174	.171	—	028
Watchmen	11	9	10.36	10.22	1.709	1.719	.165	.168	+	010
Wheelmakers	7	8	10	10	1.74	1.724	.174	.172	+	016
Whittlers	3	3	10	10	2.767	2.767	.277	.277		
Wipers	2	4	10	10	1.20	1.40	.12	.14	+	20
Wire framers, female	1	1	10	10	1.00	1.00	.10	.10		
Wood workers	46	41	10	10	1.225	1.473	.123	.147	+	248
Wrappers, female	1	1	8	8	.75	.75	.094	.094		
Yardmen	6	6	10	10	1.33	1.35	.133	.135	+	02
Yeastmen	1	1	10	10	1.943	2.17	.194	.217	+	227
Total and av.	2,381	2,554	9.75	9.76	\$1.734	\$1.782	\$.178	\$.176	+	\$.028
										1.61

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages. (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.		1905.		1904.		1904.		1905.		1904.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 and less	6	1	25	7	31	38	\$.325	\$.33	\$.269	\$.25	\$.28	\$.26
.34 to .41.	1	.....	5	9	6	0	.30	.....	.384	.383	.33	.333
.42 to .49.	3	2	11	19	14	21	.46	.42	.442	.446	.446	.444
.50 to .58.	20	28	60	132	89	160	.513	.514	.525	.517	.522	.516
.59 to .66.	3	12	26	35	29	47	.617	.612	.631	.624	.63	.621
.67 to .74.	12	14	103	44	115	56	.688	.685	.676	.683	.677	.633
.75 to .83.	103	78	91	123	194	201	.76	.764	.784	.768	.771	.763
.84 to .91.	2	5	14	28	16	33	.84	.836	.895	.83	.879	.836
.92 to .99.	3	7	7	8	15	15	.936	.934	.951	.95	.943	.943
1.00 to 1.08.	160	142	87	83	187	228	1.001	1.00	1.009	1.008	1.005	1.032
1.09 to 1.16.	7	17	10	14	17	31	1.124	1.122	1.12	1.118	1.122	1.13
1.17 to 1.24.	10	12	9	7	19	19	1.182	1.202	1.181	1.196	1.182	1.199
1.25 to 1.33.	104	77	19	26	123	103	1.264	1.262	1.25	1.254	1.262	1.26
1.34 to 1.41.	46	92	6	9	52	101	1.384	1.367	1.38	1.383	1.383	1.363
1.42 to 1.49.	5	4	.....	1	5	5	1.443	1.458	.....	1.45	1.448	1.476
1.50 to 1.58.	351	314	39	49	390	303	1.501	1.501	1.50	1.50	1.501	1.501
1.59 to 1.66.	33	48	2	1	35	47	1.607	1.605	1.66	1.60	1.61	1.635
1.67 to 1.74.	52	55	.....	2	52	57	1.685	1.692	.....	1.70	1.695	1.692
1.75 to 1.83.	204	129	25	25	229	154	1.758	1.765	1.75	1.75	1.757	1.762
1.84 to 1.91.	35	13	4	1	39	14	1.847	1.850	1.84	1.90	1.846	1.863
1.92 to 1.99.	14	21	.....	.....	14	21	1.944	1.943	.....	.....	1.944	1.943
2.00 to 2.08.	197	199	17	18	214	217	2.001	2.001	2.00	2.00	2.001	2.001
2.09 to 2.16.	11	78	.....	.....	11	78	2.126	2.13	.....	.....	2.126	2.13
2.17 to 2.24.	9	20	.....	1	9	21	2.18	2.191	.....	2.20	2.18	2.191
2.25 to 2.33.	72	75	12	12	84	87	2.272	2.267	2.25	2.25	2.268	2.263
2.34 to 2.41.	1	4	.....	.....	1	4	2.38	2.38	.....	.....	2.38	2.38
2.42 to 2.49.	3	2	.....	.....	3	2	2.427	2.425	.....	.....	2.427	2.425
2.50 to 2.58.	179	141	8	9	187	150	2.50	2.50	2.50	2.50	2.50	2.50
2.59 to 2.66.	1	1	.....	.....	1	1	2.65	2.65	.....	.....	2.65	2.65
2.67 to 2.74.	8	10	.....	.....	8	10	2.681	2.685	.....	.....	2.681	2.685
2.75 to 2.83.	35	28	1	1	36	29	2.768	2.761	2.75	2.75	2.768	2.761
2.84 to 2.91.	2	4	.....	.....	2	4	2.875	2.883	.....	.....	2.875	2.883
3.00 to 3.08.	20	100	5	5	25	135	3.00	3.00	3.00	3.00	3.00	3.03
3.09 to 3.16.	27	1	.....	.....	27	1	3.10	3.15	.....	.....	3.10	3.15
3.17 to 3.24.	3	2	.....	.....	3	2	3.113	3.185	.....	.....	3.198	3.185
3.25 to 3.33.	12	9	2	2	14	11	3.296	3.279	3.25	3.25	3.296	3.273
3.34 to 3.41.	1	.....	.....	.....	1	.....	3.36	.....	.....	.....	3.36	.....
3.42 to 3.49.	.....	2	.....	.....	.....	2	3.46	.....	.....	.....	3.43	.....
3.50 to 3.58.	1	33	.....	.....	1	33	3.50	3.50	.....	.....	3.50	3.50
3.59 to 3.66.	3	6	.....	.....	3	6	3.65	3.655	.....	.....	3.65	3.655
3.67 to 3.74.	.....	7	.....	.....	.....	7	3.679	.....	.....	.....	3.679	.....
4.00 to 4.08.	3	11	.....	.....	3	11	4.00	4.00	.....	.....	4.00	4.00
4.25 to 4.33.	1	1	.....	.....	1	1	4.25	4.25	.....	.....	4.25	4.25
4.50 to 4.58.	2	2	.....	.....	2	2	4.50	4.50	.....	.....	4.50	4.50
6.00 to 6.08.	.....	1	.....	.....	.....	1	6.00	.....	.....	.....	6.00	.....
7.50 to 7.58.	2	.....	.....	.....	2	.....	7.50	.....	.....	.....	7.50	.....
7.59 to 7.66.	73	.....	.....	.....	73	.....	7.65	.....	.....	.....	7.65	.....
7.75 to 7.83.	73	.....	.....	.....	73	.....	7.80	.....	.....	.....	7.80	.....
Total and av.	1,784	1,880	507	674	2,381	2,554	\$1.986	\$2.046	\$.982	\$.936	\$1.784	\$1.762

Remarks.—The foregoing tables are based upon returns relating to industries in each of which less than five firms are engaged; also upon reports from establishments engaged in some of the industries already tabulated, which were received too late to be included in the proper tables. The comparisons presented

do not of course possess the same value as when a single industry is referred to. Some anomalies are apparent, also. Thus, although there was an average increase of 2 per cent. in all items of investment, of 5 per cent. in the number of persons employed, and of 7 per cent. in the total wages and salaries paid, there was a decrease of 11 per cent. in the value of the materials used, of 8 per cent. in the output, and of 1 per cent. in the average yearly earnings of employees. Of somewhat greater interest however, is Table VI, in which it is seen that about one-quarter of the total number of employees were females, and that a majority of these worked in specialized occupations.—In general it may be said that this set of tables is unsatisfactory, since it is impossible to ascertain from them any facts relating to the progress of any single industry from year to year. They have been retained, however, on account of whatever value the individual facts presented may have, and also in order that the total number of male and female employees in all industries, and the average wages of each, may later be presented.

52. SUMMARY OF 51 INDUSTRIES—1,098 ESTABLISHMENTS.

TABLE I—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904	1905.	Amount.	Per cent
Number of private firms.....	445	423	— 22	4.94
Number of male partners.....	692	636	— 56	8.09
Number of female partners.....	49	46	+ 6	15.00
Total number of partners.....	732	682	— 50	6.83
Number of corporations.....	653	675	+ 22	3.37
Number of male stockholders.....	14,661	11,490	— 3,171	21.63
Number of female stockholders.....	3,192	1,883	— 1,309	41.01
Total number of stockholders.....	17,853	13,373	— 4,480	25.15
Total number of partners and stockholders..	18,585	14,025	— 4,560	24.54
Smallest number of persons employed.....	63,809	73,197	+ 9,388	14.71
Greatest number of persons employed.....	75,323	81,721	+ 6,398	8.49
Average number of persons employed.....	72,956	73,110	+ 154	0.21
Average days in operation.....	332	304	— 28	8.43

TABLE II—INVESTMENT.

Classification.	Capital invested in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Land	\$26,473,994 39	\$27,316,077 50	+ \$842,083 21	3.19
Buildings and fixtures	28,716,163 52	30,196,016 92	+ 1,481,853 40	5.16
Machinery, etc.	31,895,945 39	33,144,558 30	+ 1,248,607 94	3.91
Cash and other capital.....	92,027,792 71	95,528,393 70	+ 3,500,570 99	3.90
Total	\$179,113,895 97	\$186,187,011 51	+ \$7,073,115 54	3.95

TABLE III A VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT.

Classification.	Value of material used, wages and salaries paid in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Raw material used	\$109,129,879 38	\$122,679,738 07	+ \$13,549,858 69	12.42
Other material used	13,535,479 61	14,863,890 92	+ 1,278,397 31	9.41
Wages	33,947,937 55	36,630,327 30	+ 2,732,369 75	8.06
Salaries	8,045,804 71	8,554,580 08	+ 508,784 97	6.32
Profit and minor expenses....	42,354,996 49	44,945,127 98	+ 2,590,131 49	6.12
Goods made and work done..	\$207,064,117 74	\$227,723,649 95	+ \$20,659,532 21	9.98

TABLE III B—ANALYSIS OF TABLE III A.

Classification.	1904.	1905.
Goods made and work done (gross product).....	\$207,064,117 74	\$227,723,649 95
Value of stock used and material consumed in pro- duction	122,715,358 99	137,543,604 99
Industry product (gross production less value of stock and material)	84,348,758 75	90,180,044 96
Wages and salaries (Labor's direct share of product)	41,903,762 26	45,284,916 98
Profit and minor expense fund (industry product less wages)	42,354,996 49	44,945,127 98
Percentage of industry product paid in wages.....	Per cent. 49.79	Per cent. 50.16
Percentage of industry product devoted to profit and minor expenses	60.21	49.84

TABLE IV—AVERAGE CAPITAL, ETC., PER EMPLOYEE.

Classification.	Average capital, product and yearly earnings in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Average capital per employee	\$2,455 09	\$2,388 68	— \$71.46	2.91
Average product per employee	2,938 21	2,915 21	+ 77.00	2.71
Average yearly earnings	466 32	469 60	+ 4.28	0.92

TABLE V—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	68,900	78,197	91.42	89.57	8.58	10.43
February	70,214	78,025	93.22	90.09	6.78	9.91
March	71,510	75,883	94.94	92.96	5.06	7.02
April	71,925	70,665	95.40	93.81	4.51	6.19
May	74,202	77,802	96.51	95.28	1.49	4.72
June	74,861	78,321	96.39	95.94	0.61	4.16
July	74,626	78,861	98.94	96.54	1.06	3.46
August	75,323	79,962	100.—	97.87	.....	2.13
September	74,523	80,525	98.94	98.54	1.06	1.46
October	73,906	80,957	98.12	99.07	1.88	0.93
November	73,661	81,721	97.79	100.—	2.21	.....
December	71,978	79,569	95.53	97.39	4.47	2.61
Average	72,956	78,110	96.86	96.58	3.14	4.42

TABLE VI—OCCUPATIONS AND WAGES OF EMPLOYEES.

Note.—From 432 different occupations found in the 51 larger industries, the 46 occupations have been chosen for separate presentation which occur in the greatest number of industries.

Number.	OCCUPATIONS.	Number of persons.			Average hours per day.			Average wages per day.			Average wages per hour.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
		1901.	1904.	1905.	1904.	1905.	1904.	1904.	1905.	1904.	1904.	1905.	1905.
1	Apprentices	930	679	1,609	716	8.53	9.83	9.75	1.084	110	108	218	109
2	Assemblers	133	127	260	136	9.96	9.99	9.96	1.819	182	168	350	175
3	Bench hands	244	402	646	387	10.00	10.00	10.00	1.481	148	133	281	138
4	Blacksmiths	560	577	1,137	569	10.01	9.98	10.01	2.549	255	245	500	250
5	Boilermakers	230	233	463	230	9.74	9.91	9.82	2.546	230	231	461	230
6	Bookkeepers	6	8	14	18	9.67	10.13	9.90	2.042	18	211	229	169
7	Boxmakers	187	203	390	510	9.77	9.54	9.66	1.594	178	163	341	170
8	Boys and girls	751	629	1,380	859	9.96	9.96	9.96	1.883	925	888	1,813	901
9	Cabinetmakers	504	643	1,147	508	9.91	10.00	9.95	2.038	1,016	929	1,945	922
10	Carpenters	1,667	1,510	3,177	1,672	9.78	9.78	9.78	2.180	1,990	215	2,205	215
11	Clerks	60	110	170	114	9.75	9.63	9.69	1.853	103	180	283	149
12	Coopers	435	440	875	435	9.33	9.69	9.51	2.202	471	230	701	237
13	Coremakers	320	403	723	345	9.97	10.00	9.99	1.916	1,965	180	2,145	188
14	Cupola tenders	23	34	57	23	10.00	10.00	10.00	2.000	230	230	460	230
15	Cutters	782	852	1,634	785	9.61	9.62	9.61	2.281	1,075	231	1,306	239
16	Draftsmen	89	97	186	89	9.08	8.91	9.03	3.029	821	394	1,215	294
17	Electricians	83	101	184	83	9.76	9.81	9.78	2.215	814	231	1,045	235
18	Elevatormen	38	49	87	38	9.69	10.00	9.84	1.819	1,014	167	1,181	167
19	Engineers	568	596	1,164	568	10.29	9.82	10.05	2.449	1,113	233	1,346	247
20	Fliers	127	136	263	127	10.02	10.06	10.04	1.386	1,386	414	1,800	346
21	Finishers	936	898	1,834	1,323	9.96	9.99	9.95	1.689	1,802	169	1,971	168
22	Firemen	657	612	1,269	657	10.61	10.45	10.53	1.831	1,831	172	2,003	178
23	Foremen and fore-												
24	Helpers	780	856	1,636	822	9.80	9.96	9.88	2.813	1,007	291	1,298	283
25	Inspectors	7,752	8,033	15,785	7,752	9.83	9.86	9.84	3.101	1,333	132	3,233	121
		43	32	75	46	10.12	10.03	9.99	2.185	1,000	199	2,184	175

TABLE VII—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$0.33 or less	15	18	64	95	79	113	\$0.311	\$0.296	\$0.298	\$0.241	\$0.296	\$0.249
.34 to .41.	32	39	295	208	327	247	.357	.368	.372	.372	.374	.399
.42 to .49.	38	34	259	249	297	288	.435	.439	.441	.440	.440	.439
.50 to .58.	640	506	1,342	1,592	1,986	2,188	.515	.516	.528	.519	.521	.518
.59 to .68.	397	398	968	1,018	1,365	1,386	.620	.624	.623	.627	.628	.626
.67 to .74.	470	396	803	883	1,273	1,209	.688	.692	.693	.687	.685	.684
.75 to .83.	1,840	1,828	2,884	2,981	4,724	4,809	.768	.768	.771	.771	.770	.770
.84 to .91.	640	593	784	998	1,424	1,531	.878	.881	.876	.873	.876	.876
.92 to .99.	152	154	389	244	541	398	.935	.935	.953	.934	.949	.934
1.00 to 1.08.	2,297	2,202	1,790	2,154	4,087	4,356	1.000	1.006	1.004	1.004	1.003	1.005
1.09 to 1.16.	1,200	969	585	358	1,875	1,327	1.108	1.121	1.114	1.117	1.118	1.180
1.17 to 1.25.	946	509	230	200	1,182	769	1.213	1.199	1.197	1.188	1.206	1.191
1.26 to 1.33.	4,712	4,714	961	744	5,573	5,458	1.265	1.264	1.272	1.272	1.263	1.267
1.34 to 1.41.	2,852	2,605	130	233	2,988	2,798	1.369	1.378	1.363	1.369	1.369	1.373
1.42 to 1.49.	1,090	603	26	27	1,116	630	1.447	1.446	1.44	1.437	1.447	1.446
1.50 to 1.58.	13,351	13,882	405	418	13,756	14,300	1.503	1.503	1.507	1.504	1.503	1.503
1.59 to 1.66.	5,139	5,901	49	55	5,188	5,956	1.626	1.625	1.623	1.627	1.628	1.626
1.67 to 1.74.	2,836	2,231	44	51	2,880	2,282	1.694	1.696	1.673	1.692	1.693	1.695
1.75 to 1.83.	8,187	10,213	100	108	8,287	10,321	1.758	1.765	1.764	1.763	1.759	1.764
1.84 to 1.91.	2,107	1,762	17	7	2,184	1,769	1.869	1.867	1.864	1.881	1.869	1.877
1.92 to 1.99.	474	441	11	474	452	1,929	1.939	1.939	1.948	1.939	1.939	
2.00 to 2.08.	6,684	6,738	119	118	6,863	6,854	2.008	2.002	2.001	2.000	2.002	2.002
2.09 to 2.16.	500	764	10	12	519	776	2.125	2.131	2.128	2.105	2.125	2.131
2.17 to 2.24.	502	745	4	1	500	746	2.190	2.195	2.197	2.200	2.190	2.195
2.25 to 2.33.	2,956	3,309	25	45	2,981	3,405	2.259	2.264	2.265	2.242	2.259	2.261
2.34 to 2.41.	502	478	1	2	503	480	2.384	2.381	2.40	2.375	2.384	2.381
2.42 to 2.49.	242	271	3	1	245	272	2.453	2.449	2.46	2.42	2.453	2.449
2.50 to 2.58.	3,736	3,770	24	22	3,760	3,692	2.565	2.561	2.50	2.502	2.505	2.501
2.59 to 2.66.	373	498	3		376	488	2.625	2.621	2.60		2.625	2.621
2.67 to 2.74.	276	348	4		280	348	2.692	2.679	2.67		2.692	2.679
2.75 to 2.83.	1,332	1,837	2	6	1,334	1,843	2.764	2.761	2.75	2.75	2.764	2.761
2.84 to 2.91.	340	408	1	1	349	409	2.877	2.89		2.85	2.877	2.89
2.92 to 2.99.	10	242			10	242	2.945	2.957			2.945	2.957
3.00 to 3.08.	1,534	1,803	7	11	1,541	1,814	3.002	3.001	3.00	3.00	3.002	3.001
3.09 to 3.16.	125	120			125	120	3.125	3.122			3.125	3.122
3.17 to 3.24.	53	78			53	78	3.194	3.205			3.194	3.205
3.25 to 3.33.	428	523	2	3	430	526	3.262	3.275	3.26	3.25	3.262	3.275
3.34 to 3.41.	115	66			115	66	3.383	3.384			3.383	3.384
3.42 to 3.49.	19	22			19	22	3.453	3.453			3.453	3.453
3.50 to 3.58.	341	485			341	485	3.50	3.50			3.50	3.50
3.59 to 3.66.	69	60			69	60	3.619	3.636			3.619	3.636
3.67 to 3.74.	15	32			15	32	3.684	3.693			3.684	3.693
3.75 to 3.83.	64	133			64	133	3.764	3.757			3.764	3.757
3.84 to 3.91.	35	42			35	42	3.818	3.811			3.858	3.861
3.92 to 3.99.	9				9			3.92				3.92
4.00 to 4.08.	258	319			258	319	4.001	4.001			4.001	4.001
4.09 to 4.16.	3	8			3	8	4.114	4.110			4.114	4.119
4.17 to 4.24.	35	29			35	29	4.195	4.177			4.195	4.177
4.25 to 4.33.	39	27			39	27	4.27	4.250			4.27	4.250
4.34 to 4.41.	9	4			9	4	4.37	4.40			4.37	4.40
4.42 to 4.49.	1	1			1	1	4.45	4.43			4.45	4.43
4.50 to 4.58.	35	69			35	69	4.50	4.50			4.50	4.50
4.59 to 4.66.	14	4			14	4	4.608	4.623			4.608	4.623
4.67 to 4.74.	4	3			4	3	4.72	4.67			4.72	4.67
4.75 to 4.83.	9	21			9	21	4.773	4.76				
4.84 to 4.91.		13				13		4.90				4.90
4.92 to 4.99.		1				1		4.95				4.95
5.00 to 5.08.	110	104			110	104	5.00	5.00			5.00	5.00
5.09 to 5.16.		4				4		5.10				5.10
5.17 to 5.24.	13				13		5.237	5.18			5.237	5.18
5.25 to 5.33.	4	10			4	10	5.203	5.25			5.203	5.25
5.34 to 5.41.		2				2		5.395				5.395
5.42 to 5.49.	8	10			8	10	5.50	5.508			5.50	5.508
5.50 to 5.58.		12				12		5.63				5.63
5.59 to 5.66.	2				2		5.70				5.70	
5.67 to 5.74.	1	1			1	1	5.84	5.85			5.84	5.85
5.75 to 5.83.							5.92				5.92	
5.84 to 5.91.												
5.92 to 5.99.												

TABLE VII—CLASSIFICATION OF DAILY WAGES—Continued.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
6.00 to 6.08..	32	39			32	39	6.00	6.00			6.00	6.00
6.50 to 6.58..	5	9			5	9	6.50	6.50			6.50	6.50
6.59 to 6.66..	2				2		6.66				6.66	
6.67 to 6.74..		1				1	6.67				6.67	
6.75 to 6.83..	1				1		6.77				6.77	
7.00 to 7.08..	13	14			13	14	7.00	7.00			7.00	7.00
7.09 to 7.16..		3				3	7.15				7.15	
7.17 to 7.24..	1				1		7.20				7.20	
7.50 to 7.58..	11	8			11	8	7.50	7.50			7.50	7.50
7.59 to 7.66..	73				73		7.65				7.65	
7.75 to 7.83..	2	74			2	74	7.75	7.799			7.75	7.799
8.00 to 8.08..	7	2			7	2	8.011	8.00			8.011	8.00
8.25 to 8.33..	3	4			3	4	8.303	8.29			8.303	8.29
8.42 to 8.49..		1				1	8.42				8.42	
8.50 to 8.58..	2	1			2	1	8.50	8.50			8.50	8.50
8.59 to 8.66..		1				1	8.59				8.59	
8.67 to 8.74..	1				1		8.70				8.70	
8.84 to 8.91..		1				1	8.90				8.90	
9.00 to 9.08..	1	2			1	2	9.00	9.00			9.00	9.00
10.00 to 10.08..	1	1			1	1	10.00	10.00			10.00	10.00
11.00 to 11.08..		1				1	11.03				11.03	
12.00 to 12.08..		1				1	12.00				12.00	
12.75 to 12.83..		1				1	12.82				12.82	
13.34 to 13.41..		2				2	13.34				13.34	
14.00 to 14.08..	1	1			1	1	14.00	14.00			14.00	14.00
15.00 to 15.08..	1	1			1	1	15.00	15.00			15.00	15.00
16.07 to 16.74..		1				1	16.67				16.67	
Total ...	70,473	73,340	12,271	12,916	82,744	86,256	\$1.703	\$1.807	\$1.985	\$1.833	\$1.632	\$1.609

Remarks.—The tables indicate that the 51 leading industries of Wisconsin experienced, as a whole, an unusual growth in the two years 1904 and 1905. This is most clearly seen in the increase in the value of the industry product in 1905. In the decade from 1890 to 1900 the total value of the manufactured products of the state increased by about 45 per cent., an average increase of 4.5 per cent. per year. But in 1905 the value of all products showed a gain of nearly 10 per cent., or more than twice as great as this average. The capital invested increased by 4 per cent. in 1905, all items of investment showing a gain. There was an increase of 7 per cent. in the average number of persons employed, of 11 per cent. in the value of the materials used, and of 8 per cent. in the total wages and salaries paid. The average number of days of operation in 1905 was 304, 2 more than in 1904. This is about the number of working days in a year. But inasmuch as a number of establishments em-

ployed both day and night shifts, the average number of days of operation would be considerably greater than this number if all establishments had run during every working day in the year. It is evident therefore that a large number of plants were idle for a portion of the time each year. This was due sometimes to the necessity of making repairs to buildings or machinery; sometimes to a temporary decrease in the demand for the product; while in the case of certain industries, owing to the nature of the work done, the period of activity regularly continued for only a portion of the year, the plants being idle during the remaining months. Employment was very regular from month to month, the average of unemployment being only 3 per cent. in 1904 and 4.5 per cent. in 1905. There was an almost uniform increase in the number of employees from the beginning of 1904 to the end of 1905. Although there was an increase of 1 per cent. in 1905 in the average yearly earnings of employees, Labor received only a moderate share of the value of the industry product, as in 1904—about 50 per cent. The average daily wages of all employees increased by about 2 per cent, however. For men only, the increase was about 2.5 per cent. The average daily wages of women were about $\frac{1}{4}$ of 1 per cent lower in 1905. The increase in the number of females employed was about 1 per cent greater than the increase in the number of males. In consequence the proportion of females employed was slightly greater in 1905—14.9 per cent. of the total number of employees, as against 14.8 per cent. in 1904. There was a slight increase in the average hours of labor both of men and of women, less however than 1 per cent.

RETURNS FOR 11 MINOR INDUSTRIES.

A. BEVERAGES—17 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1901	1905	Amount.	Per cent.
Number of private firms	10	10		
Number of male partners	10	10		
Number of female partners	3	3		
Total number of partners	13	13		
Number of corporations	7	7		
Number of male stockholders	44	39	— 5	11.36
Number of female stockholders	7	6	— 1	14.29
Total number of stockholders	51	45	— 6	11.76
Total number of partners and stockholders	64	59	— 5	9.38
Smallest number of persons employed	161	229	+ 68	42.24
Greatest number of persons employed	258	291	+ 33	12.79
Average number of persons employed	230	245	+ 15	6.52
Average days in operation	303	303		
Average daily earnings	\$461.41	\$463.89	+ \$2.48	0.54

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	258	291	100.—	100.00		
February	240	243	93.02	83.51	6.98	16.49
March	226	235	87.60	80.76	12.40	19.24
April	234	239	90.70	18.79	9.30	18.21
May	241	231	93.41	79.38	6.59	20.62
June	243	240	96.10	82.47	3.90	17.53
July	231	250	89.53	85.91	10.47	14.09
August	235	251	91.09	86.25	8.91	13.75
September	229	251	83.78	86.25	11.24	13.75
October	219	246	84.86	84.55	15.14	15.45
November	219	242	84.86	83.16	15.14	16.84
December	161	229	63.40	78.70	37.60	21.30
Average	230	245	89.15	84.19	10.85	15.81

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Barn men	1	1	10	10	\$1.50	\$1.50	\$.150	\$.150		
Beer peddlers	9	9	10	10	2.50	2.50	.250	.250		
Bottlers	37	33	9.91	9.94	1.874	1.717	.183	.173	— .157	.838
Boys	1	1	9.5	10	1.17	1.17	.123	.117		
Brewers	3	3	10	10	2.32	2.977	.233	.298	+ .657	2.83
Carpenters		7		10		1.929		.193		
Engineers	2	4	10	10	2.93	2.595	.293	.256	— .335	12.92
Firemen	2	2	10	10	1.815	2.335	.182	.234	+ .52	28.66
Foremen	4	3	10	10	3.083	2.487	.308	.249	— .546	18.07
Helpers	41	37	10	10	.838	.955	.084	.096	+ .117	14.01
Inspectors	1		10			1.25		.125		
Labelers	1	5	10	10	1.50	1.95	.150	.195	— .25	10.67
Labelers, female	1	1	10	10	1.00	1.00	.100	.100		
Laborers	137	97	9.99	9.99	1.506	1.421	.151	.143	— .065	5.64
Machine operators ..	17	24	10	9.83	1.744	1.783	.174	.181	+ .039	2.24
Machinists	6		10		2.333		.233			
Packers	4	25	10	9.92	1.50	1.638	.150	.170	+ .188	12.50
Salesmen	1		10		1.50		.150			
Shipping clerks	1	2	10	10	2.00	1.90	.200	.190	— .10	5.00
Stenographers, female	1	1	7	7	1.35	1.25	.193	.179	— .10	7.04
Teamsters	22	24	10	9.96	1.92	1.913	.192	.191	— .007	.36
Washers	16	9	10	10	1.363	1.304	.136	.130	— .059	4.33
Watchmen	2	2	12	11	1.665	1.675	.139	.152	+ .01	6.01
Total and av.	310	290	9.93	9.95	\$1.579	\$1.609	\$.159	\$.162	+ \$.03	1.90

Remarks.—For each of the eleven minor industries only a few facts are presented. From the data offered, however, a fair idea of the general condition of each industry as carried on in this state may be gained.

The manufacture of beverages shows a satisfactory growth for the two years 1904 and 1905. There was an increase of 6.5 per cent. in the average number of employees, and of about $\frac{1}{2}$ of 1 per cent. in the average yearly earnings. The number of days of operation was 303 each year—practically the entire number of working days in a year. Employment was somewhat irregular in 1904, but in 1905 less so than appears from the table. The apparent irregularity in the latter year is due to the large maximum number employed in January. For the remaining months employment was quite uniform. One woman was employed each year as stenographer and one as labeler. The hours of the former were but 7 per day. The wages of both were about the average wages of female employees. The daily wages of men on the contrary were lower in this industry than the average.

B. CHEMICALS—10 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904	1905	Amount.	Per cent.
Number of private firms	2	2		
Number of male partners	17	17		
Number of female partners	2	2		
Total number of partners	19	19		
Number of corporations	8	8		
Number of male stockholders	415	415		
Number of female stockholders	8	8		
Total number of stockholders	423	423		
Total number of partners and stockholders	442	442		
Smallest number of persons employed	83	80	— 3	3.61
Greatest number of persons employed	105	99	— 6	5.71
Average number of persons employed	93	89	— 4	4.30
Average days in operation	300	311	+ 2	0.65
Average yearly earnings	\$420.34	\$449.05	+\$27.71	6.59

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	84	80	80.00	80.81	20.—	19.19
February	83	83	79.05	83.84	20.95	16.16
March	85	84	80.95	84.85	19.05	15.15
April	96	87	91.43	87.88	8.57	12.12
May	94	88	89.58	88.89	10.42	11.11
June	98	90	93.33	90.91	6.67	9.09
July	100	94	95.24	94.95	4.76	5.05
August	105	99	100.—	100.—		
September	98	97	91.43	97.98	8.57	2.02
October	94	92	89.52	92.93	10.48	7.07
November	91	92	86.67	92.93	13.33	7.07
December	90	85	85.71	85.86	14.29	14.14
Average	93	89	88.57	89.90	11.43	10.10

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1901.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Bookkeepers	1	.....	8	.....	\$2.25	.....	\$ .281	.....	.....	.....
Chemists	4	4	9.75	8.25	3.04	\$3.00	.812	\$.304	—	1.33
Coopers	1	1	10	10	2.40	2.50	.24	.25	+	4.14
Engineers	6	5	9.17	9.4	2.487	2.50	.271	.268	+	.013
Firemen	3	3	9.50	9.83	1.733	1.733	.182	.176	.....	.....
Foremen	2	2	10	10	3.31	2.325	.321	.233	—	27.57
Helpers	21	23	9.76	9.39	1.256	1.173	.129	.125	—	.083
Helpers, female	18	17	8.81	9.56	.821	.804	.093	.084	—	.017
Laborers	28	32	9.21	9.25	1.662	1.548	.172	.167	—	.034
Millers	1	.....	8	.....	1.75	.....	.219	.....	.....	.....
Packers, female	3	2	8	8	1.00	1.00	.125	.125	.....	.....
Printers	1	1	8	8	1.20	1.20	.15	.15	.....	.....
Shipping clerks	1	1	10	8	2.00	2.00	.20	.25	.....	.....
Stenographers, female	2	2	8.25	8.75	1.46	1.50	.177	.171	+	.04
Warehousemen	2	2	9	9	2.125	2.375	.236	.264	+	.25
Watchmen	1	1	10	10	1.25	1.25	.125	.125	.....	.....
Total	95	96	9.23	9.29	\$1.528	\$1.471	\$.166	\$.156	—	6.07
									\$.73	

Remarks.—In this industry there was a decrease of 4 per cent. in 1905 in the average number of persons employed, and probably therefore a decrease in the output. There was however an increase of 2 in the number of days of operation, the number being high each year—309 in 1904 and 311 in 1905. The average yearly earnings of employees increased by nearly 7 per cent. Employment was somewhat irregular, especially in 1904 when there was an average of 22 per cent. of unemployment. In 1905 the average was 15 per cent. About one-fourth of the employees were women. They were employed in subsidiary occupations. Their hours of labor were less than 9 per day in 1904, but over 9 per day in 1905. Men worked about $9\frac{1}{4}$ hours per day each year.

C. COAL AND WOOD—21 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	6	6		
Number of male partners	8	8		
Number of female partners				
Total number of partners	8	8		
Number of corporations	15	15		
Number of male stockholders	58	58		
Number of female stockholders	5	5		
Total number of stockholders	63	63		
Total number of partners and stockholders	71	71		
Smallest number persons employed	1,196	1,340	+ 144	12.04
Greatest number of persons employed	1,948	1,894	— 54	2.77
Average number of persons employed	1,510	1,614	+ 104	6.89
Average days in operation	318	313	— 5	1.57
Average yearly earnings	\$519 75	\$508 94	—\$10 81	2.08

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	1,253	1,452	64.32	76.66	35.68	23.34
February	1,376	1,553	70.64	80.39	29.36	19.61
March	1,277	1,340	65.55	70.75	34.45	29.25
April	1,196	1,358	61.40	71.70	38.60	28.30
May	1,397	1,634	71.72	88.91	28.28	11.09
June	1,563	1,594	80.24	84.10	19.76	15.84
July	1,948	1,641	100.—	86.64	.....	13.36
August	1,737	1,717	89.17	90.65	10.83	9.35
September	1,677	1,662	86.09	87.75	13.91	12.25
October	1,614	1,691	82.85	89.28	17.15	10.72
November	1,523	1,894	78.18	100.—	21.82	.....
December	1,559	1,778	80.03	93.88	19.97	6.12
Average	1,510	1,614	77.53	85.22	22.48	14.78

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904	1905	Amt.	Per ct.
Bag men	1	1	10	10	\$2.00	\$2.00	\$.20	\$.20	—	—
Blacksmiths	8	9	10	9.89	2.683	2.611	.268	.261	— \$.077	2.85
Carpenters	14	31	9.83	10	2.732	2.823	.275	.282	+ .091	3.33
Check boys	1	1	10	10	1.75	1.75	.175	.175	—	—
Coal heavers	149	100	10	10	5.128	5.353	.513	.535	+ .225	4.39
Coal scrapers		2		10		1.665		.167	—	—
Conveyors	6	7	10	10	2.083	2.071	.208	.207	— .012	.58
Dock laborers	82	127	10	10	2.253	2.20	.225	.222	— .033	1.46
Engineers	16	24	10	9.94	2.53	2.685	.253	.268	+ .135	5.33
Firemen	8	19	9.88	10	2.063	2.245	.209	.225	+ .182	8.82
Foremen	43	63	10	9.96	2.643	2.661	.264	.266	+ .038	1.44
Grip men	2	2	10	10	2.00	2.00	.20	.20	—	—
Harness makers	1	1	10	10	2.00	2.00	.20	.20	—	—
Hatch tenders	6	6	10	10	1.75	1.75	.175	.175	—	—
Helpers	21	4	10	10	1.726	2.188	.173	.219	+ .462	26.76
Holsters	112	124	9.83	9.90	2.469	2.503	.251	.253	+ .035	1.42
Hostlers		5		10		2.064		.206	—	—
Laborers	731		9.63	9.94	1.945	1.916	.192	.193	+ .071	3.85
Machine tenders	1	1	10	10	1.83	2.00	.183	.20	+ .17	9.29
Machinists	2	17	9.11	10	1.83	2.118	.201	.212	+ .226	13.00
Messengers	4	1	10	10	1.26	2.00	.126	.20	+ .76	60.00
Oilers	6	10	10	10	2.33	2.275	.233	.228	— .058	2.49
Painters	1	1	10	10	2.50	2.50	.25	.25	—	—
Pickers		6		11		2.003		.182	—	—
Riggers	5	2	10	10	2.65	2.50	.265	.25	— .15	5.66
Sawyers	4	3	10	10	2.063	2.00	.206	.20	— .063	3.05
Splicers	1		10		2.83		.283		—	—
Stevadores	24	24	10	9.58	6.00	6.00	.60	.626	—	—
Sweepers	1		10		1.25		.125		—	—
Teamsters	123	120	9.99	10	1.932	1.883	.193	.193	+ .001	.05
Timekeepers		2		10		2.11		.211	—	—
Watchmen	10	15	10.4	10.68	1.598	1.749	.154	.175	+ .151	9.45
Water boys	3	13	10	10.46	1.25	1.346	.125	.129	+ .096	7.68
Weighers	9	8	10	10	2.444	2.50	.244	.25	+ .056	2.39
Yardmen	350	240	10	10	1.743	1.759	.174	.176	+ .015	.86
Total	1,752	1,742	9.83	9.97	\$2.28	\$2.273	\$.232	\$.228	— \$.007	.31

Remarks.—This industry experienced a moderate growth in 1904 and 1905. There was an increase of 7 per cent. in the average number of employees in the latter year. Employment was much less irregular, the average unemployment being 15 per cent. as against 22 per cent. in 1904. The average yearly earnings of employees however decreased by about 2 per cent. The average number of days of operation was 318 in 1904 and 313 in 1905, both numbers being higher than the average for all industries. The average daily wages of employees were much higher in this industry than the average daily wages for men in all industries. No women were employed in either year.

D. CONTRACTORS AND BUILDERS—100 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904	1905	Amount.	Per cent.
Number of private firms	99	99		
Number of male partners	125	125		
Number of female partners	1	1		
Total number of partners	126	126		
Number of corporations	1	1		
Number of male stockholders	2	2		
Number of female stockholders	1	1		
Total number of stockholders	3	3		
Total number of partners and stockholders	129	129		
Smallest number of persons employed	211	228	+ 17	8.06
Greatest number of persons employed	983	827	— 156	15.87
Average number of persons employed	646	616	— 30	4.64
Average days in operation	237	237		
Average yearly earnings	\$584 17	\$583 98	— \$0.19	0.03

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	225	261	22.80	31.56	77.11	68.44
February	211	228	21.47	27.57	78.53	72.43
March	310	391	31.54	47.23	68.46	52.72
April	535	579	54.43	70.01	45.57	29.99
May	770	755	73.33	91.29	21.67	8.71
June	799	827	81.28	100.—	18.72	
July	907	801	92.37	96.86	7.73	3.14
August	983	806	100.—	97.46		2.54
September	970	773	98.68	94.07	1.32	5.93
October	838	753	90.34	91.05	9.66	8.95
November	729	659	74.16	79.69	25.84	20.31
December	422	552	42.93	66.75	57.07	33.25
Average	646	616	65.73	74.49	34.28	25.51

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Apprentices	5	8	10	9.63	\$1.390	\$1.296	\$.138	\$.135	— \$.008	.02
Bookkeepers, female.	1	1	10	10	.800	.800	.080	.083	+ .003	.04
Boys	1	8	8	8	.500	.....	.063	.....	.....	.....
Brick layers	18	9	9	9	4.300	.....	.478	.....	.....	.....
Building movers	1	10	10	10	6.000	.....	.600	.....	.....	.....
Captains	1	1	10	10	3.500	3.500	.350	.350	.....	.....
Carpenters	614	581	9.59	9.61	2.800	2.358	.292	.245	— .047	1.60
Cooks, female	1	12	12	12	1.000	.....	.833	.....	.....	.....
Edgers	1	1	10	10	1.750	.....	.175	.....	.....	.....
Electricians	1	1	9	9	5.000	.....	.566	.....	.....	.....
Engineers	5	5	9.30	10	3.450	3.250	.352	.325	— .027	.08
Filers	1	1	10	10	3.000	.....	.300	.....	.....	.....
Firemen	5	4	10	10	1.900	2.125	.190	.213	+ .023	1.21
Foremen	6	13	10	9.31	3.222	4.000	.329	.430	+ .101	3.07
Helpers	65	136	9.81	9.62	1.669	1.708	.171	.181	+ .013	.08
Laborers	114	71	9.45	9.75	1.823	1.763	.193	.181	— .012	.07
Lathers	1	9	9	9	3.500	.....	.889	.....	.....	.....
Machine operators	1	10	10	10	1.750	.....	.175	.....	.....	.....
Masons	99	111	9.57	9.33	3.526	3.852	.369	.413	+ .044	1.25
Mechanics	7	10	10	10	2.179	.....	.218	.....	.....	.....
Painters	20	17	9.60	9.53	2.308	2.544	.240	.267	+ .027	1.17
Plasterers	12	6	9.56	9.33	3.584	3.667	.374	.393	+ .019	.06
Plumbers	1	3	9	9	4.667	.....	.519	.....	.....	.....
Sailors	5	10	10	10	1.750	.....	.175	.....	.....	.....
Sawyers	1	1	10	10	3.000	.....	.300	.....	.....	.....
Stone cutters	9	6	8	8	4.000	4.000	.500	.500	.....	.....
Teamsters	8	13	9.75	9.38	1.719	1.685	.176	.180	+ .004	.02
Tenders	36	27	9.83	9.41	1.776	1.841	.181	.196	+ .015	.09
Tinners	1	1	9	9	2.750	.....	.306	.....	.....	.....
Waitresses	2	12	12	12	.750	.....	.063	.....	.....	.....
Total	1,037	1,007	9.60	9.57	\$2.352	\$2.424	\$.245	\$.253	+ \$.008	.03

Remarks.—This industry suffered a decrease of 5 per cent. in 1905 in the number of persons employed. The number of days of operation remained the same, 237. The number was considerably less than the average for all industries owing to the nature of the work done. The season of the greatest activity was naturally during the summer months. The difference between the amount of work that could be done in winter and that done in summer produced a high average of unemployment—34 per cent. in 1904 and 26 per cent. in 1905. The average yearly earnings of employees were practically the same each year. The average daily wages of men were much higher than the average—\$2.36 in 1904 and \$2.43 in 1905. But four women were employed in 1904, and only one in 1905, all in accessory occupations. The hours of labor of those employed as cooks and waitresses were exceptionally long—12 per day.

E. ELEVATORS—18 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	8	8		
Number of male partners	11	11		
Number of female partners				
Total number of partners	11	11		
Number of corporations	10	10		
Number of male stockholders	45	51	+	6
Number of female stockholders	1	2	+	1
Total number of stockholders	46	53	+	7
Total number of partners and stockholders	57	64	+	7
Smallest number of persons employed	112	135	+	23
Greatest number of persons employed	232	268	—	14
Average number of persons employed	166	179	+	13
Average days in operation	314	303	—	11
Average yearly earnings	\$685 00	\$607 52	—\$17 54	2.56

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	150	176	53.19	65.67	46.81	34.33
February	135	160	47.87	59.70	52.13	40.30
March	154	148	47.53	55.22	52.48	44.78
April	128	141	45.89	52.61	54.61	47.39
May	119	135	42.20	50.37	57.80	49.63
June	126	155	44.66	57.84	55.33	42.16
July	112	144	39.79	53.73	60.28	46.27
August	129	141	45.74	52.61	54.26	47.39
September	215	226	76.24	84.33	23.76	15.67
October	282	268	100.—	100.—		
November	238	241	84.40	89.93	15.60	10.07
December	201	211	71.28	78.73	28.72	21.27
Average	166	179	58.87	66.79	41.13	33.21

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages, per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Bookkeepers	1	3	11	10	\$2.00	\$2.383	\$.182	\$.200	+	\$.383	19.15
Buyers	1	1	10	10	2.50	2.50	.250	.250			
Cleaners	1	1	10	10	2.50	2.50	.250	.250			
Distributors	1	1	10	10	1.65	1.65	.165	.165			
Engineers	7	5	10	10	3.071	3.106	.307	.311	+	.035	1.14
Firemen	6	5	10	10	2.293	2.08	.229	.208	—	.213	9.29
Foremen	10	8	10	10	3.25	2.784	.325	.277	—	.483	1.50
Helpers	3	3	10	10	1.833	2.25	.183	.225	+	.417	22.75
House men	2	2	10	10	3.30	3.30	.330	.330			
Inspectors	2	3	10	10	2.975	2.66	.298	.266	—	.045	.50
Laborers	171	123	9.99	9.99	1.901	1.835	.190	.184	—	.066	3.47
Machinists	2	2	10	10	2.50	2.50	.250	.250			
Millers	1	1	10	11	1.75	2.00	.175	.182	+	.25	14.29
Millwrights	5	5	10	10	2.812	2.896	.281	.289	+	.074	2.63
Oilers	3	4	10	10	2.243	2.185	.224	.219	—	.058	2.59
Spouters	2	2	10	10	2.405	2.405	.241	.241			
Stenographers, female	1	1	9	8	1.50	1.75	.167	.219	+	.25	16.07
Teamsters	4	2	10	10.5	1.438	1.30	.144	.124	—	.108	7.51
Watchmen	7	7	10	10.86	2.014	1.977	.201	.182	—	.037	1.84
Weighters	7	5	10	10	2.723	2.786	.272	.279	+	.063	2.31
Total and av.	235	180	10	10.03	\$2.067	\$2.045	\$.207	\$.204	—	\$.024	1.161

Remarks.—There was an increase of 8 per cent. in 1905 in the the average number of persons employed in this industry. The average number of days of operation however decreased 4 per cent., and the average yearly earnings of employees nearly 3 per cent. The average unemployment was somewhat less in 1905—33 per cent. as against 41 per cent. in 1904. The greatest activity each year was during the months directly after the grain had been harvested. Female help was not employed in this industry, with the exception of one person working as stenographer. Her wages, as also those of the male employees, were considerably higher than the average. This industry is one which is destined to increase in importance as new areas within the state are opened to agriculture.

F. LAUNDRIES—44 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount	Per cent
Number of private firms	29	29		
Number of male partners	38	33		
Number of female partners	1	2	+	100.—
Total number of partners	39	40	+	2.56
Number of corporations	15	15		
Number of male stockholders	49	43	—	2.05
Number of female stockholders	5	6	+	20.00
Total number of stockholders	54	54		
Total number of partners and stockholders	93	94	+	1.08
Smallest number of persons employed	561	602	+	7.31
Greatest number of persons employed	690	740	+	7.25
Average number of persons employed	632	659	+	4.27
Average days in operation	308	307	—	1.33
Average yearly earnings	\$349 02	\$358 86	+	2.83

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
	1904.	1905.	Employment in		Unemployment in	
			1904.	1905.	1904.	1905.
January	561	607	81.30	82.03	18.70	17.97
February	588	602	85.22	81.35	14.78	18.65
March	590	606	85.51	81.76	14.49	18.24
April	603	616	83.11	83.24	11.89	16.76
May	618	615	89.56	83.10	10.44	16.90
June	637	638	92.33	86.22	7.68	13.78
July	659	728	95.50	98.37	4.50	1.63
August	663	740	96.09	100.—	3.91	.....
September	690	718	100.—	97.08	.....	2.97
October	690	694	98.06	93.78	3.04	6.22
November	651	672	94.78	90.81	5.22	9.19
December	644	668	93.33	90.27	6.67	9.73
Average	632	659	91.59	89.05	8.41	10.95

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Assorters, female	1	10			\$1.67		\$1.67			
Barn men	1	10			2.00		2.00			
Bookkeepers	1	10	10		2.17	\$1.50	.217	\$.150	— .67	30.88
Bookkeepers, female	6	7	10	10	1.333	1.884	.133	.188	+	.551 41.34
Bundlers, female	1	8	10	10	1.18	.947	.118	.095	— .233	19.74
Clerks, female	6	9	10	10	1.20	1.117	.120	.112	— .083	6.93
Drivers	61	61	9.89	9.83	2.018	2.001	.204		— .017	.84
Dryers, female		1		10		1.10		.110		
Engineers	12	11	0	10	2.67	2.594	.27	.239	— .17	5.61
Firemen	3	8	10	10	1.367	1.70	.137	.170	+	.333 25.09
Foremen	8	7	9.68	10	2.396	2.596	.248	.260	+	.200 8.35
Forewomen	5	4	9.70	10	1.884	1.918	.194	.192	— .034	1.80
Helpers	5	8	10	10	1.095	.925	.20	.093	— .170	15.53
Helpers, female	52	31	9.37	10	.630	.751		.075	+	.071 10.44
Ironers	7	9	10	9.67	2.214	1.874	.221	.189	— .390	17.62
Ironers, female	200	160	9.78	9.96	1.005	1.000	.103	.100	— .005	.50
Laundresses	177	206	9.76	10	.645	.982	.097	.098	+	.037 3.88
Machine operators, female	43	26	10	10	1.128	.944	.113	.094	— .184	16.31
Manglers, female	8	24	10	10	.708	.798	.071	.092	+	.09 12.71
Markers	1	1	10	10	2.17	.76	.217	.075	— 1.42	65.41
Markers, female	5	21	9.80	10	1.132	1.105	.116	.111	— .027	23.86
Menders, female	1		9		.75		.083			
Polishers	2	4	19	10	1.90	1.515	.190	.152	— .445	22.70
Polishers, female	1	19	9	10	1.17	.897	.130	.090	— .273	23.33
Repairers		1		10		2.50		.250		
Sorters	3	2	10	10	2.223	2.00	.200	.020	— .223	10.08
Sorters, female	14	15	9.86	10	1.176	1.412	.119	.141	+	.236 20.07
Starchers, female	36	20	9.78	10	1.073	1.173	.110	.117	+	.065 8.81
Washers	29	20	9.91	9.86	1.836	1.204	.185	.122	— .682	34.42
Washers, female	14	20	9.83	9.6	1.125	1.102	.115	.115	— .023	2.04
Watchmen		1		10		1.33		.133		
Total and av.	703	737	9.81	9.96	\$1.179	\$1.192	\$.120	\$.120	+	\$.013 1.10

Remarks.—This industry shows a gain of 4 per cent. in 1905 in the average number of persons employed. The number of days of operation was less by one than in 1904. The average yearly earnings of employees were slightly over 1 per cent. greater. The summer months were each year the season of greatest activity. The average of unemployment was somewhat greater in 1905—11 per cent. as opposed to 8 per cent. in 1904. This industry is carried on perhaps to a larger extent than any other by the work of women. Over $\frac{3}{4}$ of the employees each year were females. They were employed in all of the more important occupations of the industry, the male employees working, with but few exceptions, in the subsidiary occupations. The average daily wages both of males and of females were higher

than the average. The average daily wages of men were \$1.99 in 1904 and \$1.96 in 1905; those of women, \$0.99 in 1904 and \$1.01 in 1905.

G. LIGHT, WATER AND POWER—52 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	5	5		
Number of male partners	6	6		
Number of female partners				
Total number of partners	6	6		
Number of corporations	47	47		
Number of male stockholders	429	430	+ 1	0.23
Number of female stockholders	301	302	+ 1	0.32
Total number of stockholders	730	732	+ 2	0.27
Total number of partners and stockholders	738	738	+ 0	0.27
Smallest number of persons employed	954	891	— 63	6.60
Greatest number of persons employed	1,376	1,335	— 41	2.93
Average number of persons employed	1,151	1,101	— 50	4.34
Average days in operation	306	306		
Average yearly earnings	\$566 50	\$567 93	+ \$1.43	0.25

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	989	909	71.88	66.09	28.12	31.91
February	999	919	72.60	68.84	27.40	31.63
March	1,002	891	72.82	66.74	27.18	33.26
April	1,266	1,147	92.00	85.92	8.00	14.08
May	1,376	1,222	100.—	91.54		8.46
June	1,303	1,335	94.69	100.—	5.31	
July	1,251	1,193	90.92	89.36	9.08	10.64
August	1,195	1,154	86.85	89.44	13.15	13.66
September	1,153	1,143	84.16	86.62	15.84	14.38
October	1,167	1,112	84.81	83.30	15.19	16.70
November	1,154	1,098	83.87	82.25	16.13	17.75
December	954	1,091	69.33	80.99	30.67	19.02
Average	1,151	1,101	83.65	82.47	16.35	17.53

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Barn men	10	10	10.9	11	\$1.774	\$1.732	\$.163	\$.157	— \$.042	2.37
Blacksmiths	3	1	10	10	2.50	3.00	.250	.300	+ .50	20.
Boiler makers	2	1	10	10	2.75	3.00	.275	.300	+ .25	9.09
Bookkeepers		1		10		2.00		.200		
Boys		5		10		.83		.083		
Carpenters	15	6	9.73	10	2.707	2.458	.279	.246	— .249	9.12
Calkers	7	5	10	10	2.214	2.15	.221	.215	— .064	2.89
Clinkers	6	4	10	12	2.292	2.375	.229	.198	— .063	3.62
Coal holsters	10	12	10.2	10.33	2.475	2.493	.243	.241	— .018	7.27
Collectors	6	6	9.33	9.75	1.783	1.83	.191	.209	+ .047	2.64
Conductors	11	16	11	11	1.615	1.733	.147	.158	+ .118	7.31
Conveyors	4	2	10	12	2.25	2.25	.225	.188		
Doctors	21	18	10	12	2.50	2.50	.250	.206		
Dynamo tenders	10	6	10.6	9.75	1.75	1.738	.165	.178	— .012	.69
Engineers	73	71	10.88	10.93	2.125	2.140	.195	.196	+ .021	.90
Electricians	23	22	10.30	10.41	2.279	2.458	.221	.235	+ .174	7.63
Firemen	61	48	10.78	11.95	1.684	1.701	.156	.150	— .071	1.01
Foremen	28	26	10.14	9.88	2.654	2.665	.232	.268	+ .011	.41
Gas makers	7	23	11.43	10.09	2.227	2.151	.195	.213	— .076	3.41
Gas fitters	93	91	9.52	9.64	2.135	2.091	.220	.215	— .044	2.06
Helpers	100	114	9.86	9.90	1.634	1.629	.163	.163	— .005	.31
Inspectors	5	5	9.2	9.40	2.654	2.67	.268	.234		
Lamp trimmers	15	15	10.13	10.27	1.624	1.616	.160	.169		
Laborers	489	488	9.99	10.01	1.708	1.90	.171	.189	+ .192	11.24
Line men	31	32	9.55	9.28	2.062	2.007	.219	.216	— .075	3.80
Machinists	15	8	9.97	10	2.65	2.362	.268	.236	— .288	1.09
Manglers	1		10		3.29		.329			
Masons	12	2	8.33	10	3.958	3.00	.479	.300	— .958	24.20
Meter readers	22	20	9.91	8	2.02	1.963	.204	.245	— .067	2.82
Meter testers	1		10		1.75		.175			
Meter setters	6	15	10	9.93	1.922	2.033	.192	.205	+ .111	5.77
Motormen	15	12	10.93	11	1.645	1.76	.151	.160	+ .115	6.99
Oilers	10	8	10	10.5	2.00	1.413	.200	.134	— .587	29.35
Painters		1		10		1.75		.175		
Pavers	1		10		2.50		.250			
Pipe layers	19	19	10	10	2.355	2.045	.236	.205	— .310	13.17
Repairers	17	31	9.94	9.84	2.103	2.003	.212	.204	— .100	4.71
Scourers	3	2	10	12	2.25	2.50	.225	.208	+ .25	11.11
Solicitors	1		10		2.25		.225			
Stokers	17	19	11.29	11.37	2.018	2.123	.178	.187	+ .105	5.20
Stove handlers		5		10		1.54		.154		
Switchmen	2	3	10	10	1.75	1.867	.175	.187	+ .117	6.69
Teamsters	17	26	10	9.93	1.804	1.819	.180	.182	+ .015	.33
Telephone girls	1	3	11	12	.83	.733	.075	.067	— .097	11.69
Watchmen	3	3	10	10.67	1.667	1.58	.167	.156	— .107	6.41
Total and av.	1,186	1,205	10.07	10.14	\$1.922	\$1.967	\$.191	\$.194	— \$.065	2.86

Remarks.—The tables indicate a slight loss in this industry for 1905. There was a decrease of 4 per cent. in the number of employees, and of about 3 per cent. in their average daily wages. Their yearly earnings were slightly greater however in 1905. Employment was less regular, the average of unemployment being 18 per cent. as against 16 per cent. in 1904. The average hours of all employees were slightly over 10 per day. Female

help was employed only in the subsidiary occupation of telephone operators, one person being employed in that capacity in 1904 and three in 1905. Their hours were 11 and 12 per day for the two years respectively. Their daily wages were less than the average; those of male employees somewhat higher than the average.

H. LITHOGRAPHING AND ENGRAVING—11 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent.
Number of private firms	1	1		
Number of male partners	1	1		
Number of female partners				
Total number of partners	1	1		
Number of corporations	10	10		
Number of male stockholders	66	66		
Number of female stockholders	8	8		
Total number of stockholders	74	74		
Total number of partners and stockholders	75	75		
Smallest number of persons employed	548	580	+ 23	4.21
Greatest number of persons employed	633	646	+ 13	2.05
Average number of persons employed	530	605	+ 16	2.69
Average days in operation	308	306		
Average yearly earnings	\$509 92	\$572 73	+ \$2 80	0.50

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	578	600	91.31	94.27	8.69	5.73
February	594	605	93.84	93.65	6.16	6.35
March	540	646	86.26	100.—	13.74	
April	561	627	89.10	97.06	10.90	2.94
May	563	600	93.68	92.89	6.32	7.12
June	579	574	91.47	92.42	8.53	7.58
July	589	560	98.05	88.09	6.95	11.92
August	591	591	93.38	91.49	6.64	8.51
September	603	613	95.26	94.89	4.74	5.11
October	633	615	100.—	95.20		4.80
November	603	600	95.26	92.88	4.74	7.12
December	560	614	94.63	95.05	5.37	4.95
Average	580	606	93.05	93.65	6.95	6.35

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Apprentices	24	60	8.20	8.67	.838	.818	.101	.098	—	.003	.36
Artists	34	43	8.40	8.68	4.036	3.503	.480	.478	—	.012	1.04
Battery men		1		9		2.00		.222			
Book binders	24	21	8.88	8.76	2.040	2.199	.23	.251	+	.021	1.03
Book binders, female	36	61	8.53	8.69	.692	.732	.081	.084	+	.003	.43
Book binders' helpers	9	6	9	9	.749	1.048	.083	.116	+	.033	4.41
Boys	55	52	8.78	8.69	.644	.70	.073	.081	+	.006	1.24
Clerks	4	4	8.50	8.50	2.375	2.088	.279	.246	—	.033	1.39
Clerks, female		6		9		.733		.081			
Compositors	21	19	9	9	2.701	2.232	.31	.238	—	.072	2.53
Cutters	17	17	8.76	8.77	2.020	2.149	.232	.245	+	.013	.64
Dampeners	2	2	8	8	1.50	1.50	.188	.188			
Designers		5		8		4.006		.508			
Die cutters, female		5		9		.60		.077			
Electrotypers	7	5	9	9	2.166	2.80	.241	.311	+	.070	3.23
Engineers	4	5	8.75	8.80	2.583	2.46	.295	.280	—	.015	.78
Engravers	50	37	8.68	8.59	3.641	3.676	.419	.416	—	.003	.08
Etchers	2	10	8	8.60	3.565	3.041	.445	.354	—	.091	2.55
Feeders	64	65	8.83	8.83	1.463	1.60	.160	.181	+	.015	1.02
Finishers	4	6	8.50	8.67	3.033	2.832	.357	.33	—	.027	.89
Firemen	2	2	8.50	8.50	2.125	2.00	.25	.225	—	.015	.71
Foremen	4		8.50		3.708		.436				
Helpers	63	38	8.87	8.79	.884	.753	.10	.086	—	.014	1.58
Helpers, female	72	39	8.98	9	.618	.63	.069	.070	+	.001	.16
Laborers	5	9	8.40	8.56	1.71	1.509	.204	.176	—	.028	1.61
Lino typists	5	5	9	9	3.063	3.236	.341	.36	+	.019	.62
Lithographers	12		8		3.293		.412				
Molders	1	3	9	9	3.50	2.00	.389	.222	—	.167	4.77
Photographers	3	10	8	8.40	3.947	3.826	.493	.455	—	.038	.96
Pressmen	34	48	9	8.77	3.347	3.468	.372	.375	+	.003	.8
Printers	8	10	8.50	8.50	2.229	2.496	.262	.294	+	.032	1.43
Provers	5	6	8.60	8.67	3.300	3.457	.384	.399	+	.015	.46
Router	1		3		3.00		.375				
Shippers		2		9		2.32		.256			
Stencillers	1		9		1.17		.13				
Stencillers, female	2	2	9	9	.75	.75	.083	.083			
Stone grinders	9	10	8.56	8.60	2.042	2.178	.239	.253	+	.014	.69
Stone polishers	3	2	9	9	2.22	2.50	.247	.278	+	.031	1.43
Teamsters	1		9		2.67		.207				
Transferrers	29	32	8.76	8.66	3.319	3.007	.379	.417	+	.038	1.14
Trimmers	1	2	9	9	2.00	2.50	.222	.278	+	.056	2.80
Watchmen	1	2	9	8.50	2.00	1.715	.222	.202	—	.020	1.00
Total	619	630	8.75	8.74	\$1.906	\$1.979	\$.218	\$.226	+	\$.008	.42

Remarks.—For the industry of lithographing and engraving the tables show in general a moderate gain for 1905. There was an increase of 3 per cent. in the number of persons employed, a slight increase in their average yearly earnings, and a greater uniformity of employment from month to month. Employment was exceptionally regular each year, the average unemployment being only 7 per cent. in 1904 and 6 per cent. in 1905. The average hours of labor for all employes were about 8¾ per day, much shorter than the average hours for all industries.

About one-sixth of the total number of employees were women. They were employed chiefly in some of the lighter occupations peculiar to the industry. Their wages averaged \$.65 per day in 1904 and \$.70 in 1905—much less than the average daily wages for women in all industries. Men's wages, on the contrary, were higher than the average, being \$2.18 in 1904 and \$2.23 in 1905. About 6 per cent. fewer women were employed in 1905 than in the preceding year.

I. PRINTING AND PUBLISHING—112 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	74	73	— 1	1.35
Number of male partners	102	96	— 6	5.88
Number of female partners	9	9	—	
Total number of partners	111	105	— 6	5.41
Number of corporations	38	39	+ 1	2.63
Number of male stockholders	296	301	+ 5	1.69
Number of female stockholders	37	37	—	
Total number of stockholders	333	338	+ 5	1.50
Total number of partners and stockholders ..	444	443	— 1	0.23
Smallest number of persons employed	1,144	1,165	+ 21	1.84
Greatest number of persons employed	1,211	1,217	+ 6	0.50
Average number of persons employed	1,167	1,182	+ 15	1.29
Average days in operation	314	317	+ 3	0.96
Average yearly wages	\$477 81	\$486 39	+ \$8 58	1.80

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905	1904.	1905.
January	1,151	1,171	95.05	96.22	4.95	3.78
February	1,144	1,188	94.47	97.62	5.53	2.38
March	1,165	1,180	96.20	97.70	3.80	2.30
April	1,150	1,179	95.71	96.88	4.29	3.12
May	1,148	1,175	94.80	96.55	5.20	3.45
June	1,161	1,135	96.87	95.73	4.13	4.27
July	1,182	1,169	97.61	95.81	2.39	4.19
August	1,167	1,178	96.37	96.90	3.63	3.20
September	1,154	1,180	95.30	96.96	4.70	3.04
October	1,173	1,187	96.86	97.54	3.14	2.46
November	1,193	1,191	98.52	97.86	1.48	2.14
December	1,211	1,217	100.—	100.—		
Average	1,167	1,182	96.37	97.12	3.63	2.88

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.		
	1904.	1905.	1904	1905	1904.	1905.	1904.	1905.	Amt.	Per ct.	
Advertising clerks	7	13	8.64	9.15	\$2.403	\$2.229	\$.278	\$.244	—	\$.174	7.24
Apprentices	42	47	9.18	9.17	.759	.775	.082	.085	+	.016	2.19
Artists	1	1	8.50	9	3.33	.450	.392	.50	+	1.17	35.14
Bank men		1		8		3.00		.375			
Binders	10	12	9.05	9.63	2.014	2.022	.209	.21	+	.008	.4
Binders, female	49	70	9.12	9.19	.71	.772	.078	.084	+	.002	8.73
Bookkeepers	2	6	9	8.71	1.915	2.388	.213	.274	+	.473	24.7
Bookkeepers, female	4	5	9.56	9.60	1.415	1.506	.148	.166	+	.181	12.70
Boys	30	30	8.97	9.36	.59	.714	.067	.070	+	.124	21.02
Bundlers	1		10		1.75		.175				
Carriers	78	78	1.59	1.56	.189	.20	.112	.128	+	.012	6.38
Cashiers, female	1		8		1.67		.200				
Clerks	1	5	8	10	2.00	2.00	.25	.20			
Clerks, female	2	2	9	9.50	.75	.025	.083	.036	—	.125	16.67
Collectors	4	4	9.56	9.50	1.60	2.415	.167	.254	+	.815	50.04
Compositors	203	166	8.33	9.08	2.343	2.295	.281	.253	—	.048	2.05
Compositors, female	80	99	9.01	9.26	1.139	1.107	.126	.12	—	.032	2.80
Cutters	8	8	9.25	8	2.135	2.344	.231	.293	+	.209	9.70
Drivers	7	6	8.86	8.67	1.509	1.80	.18	.218	+	.291	18.2
Editors	12	9	9.21	9.56	3.445	3.036	.374	.317	—	.400	11.87
Electricians	1	1	9	9	3.00	3.33	.333	.37	+	.38	11
Elevator men	4	3	10	9.33	1.167	1.167	.117	.125			
Engineers	1	1	10	10	4.00	4.00	.40	.40			
Finishers, female	5	5	10	10	1.60	1.00	.16	.10			
Firemen	2	2	10	10	3.00	3.00	.30	.30			
Folders, female	9		9.11		.593		.065				
Foremen	27	26	9.39	9.08	2.926	3.034	.312	.334	+	.108	3.69
Forewomen	1	1	9	9	1.33	1.33	.148	.148			
Helpers	77	66	9.10	9.33	.899	1.031	.098	.111	+	.142	15.97
Helpers, female	10	3	9.65	10	.776	1.08	.08	.108	+	.304	39.18
Janitors	4	2	9.50	9.50	2.023	2.00	.213	.211	—	.023	1.14
Janitors, female		1		10		2.00		.20			
Laborers		7		10		1.607		.161			
Linotypists	28	47	8.53	8.44	2.96	3.246	.347	.385	+	.286	9.66
Machinists	3	11	8.08	9.15	3.553	2.773	.44	.293	—	.78	21.95
Mailing clerks	4	9	8.31	8.56	1.54	1.438	.185	.168	—	.102	6.62
Make-up men		4		9		2.688		.299			
Managers	4	3	9.06	10	4.413	3.427	.487	.343	—	.986	22.31
Office girls		1		9		.50		.066			
Packers		1		10		2.50		.25			
Press feeders	114	118	9.13	9.10	1.435	1.391	.157	.153	—	.044	3.07
Pressmen	68	99	8.04	9.19	2.565	2.395	.287	.261	—	.170	6.63
Printers	230	193	9.48	9.17	2.009	2.006	2.12	.219	—	.003	.14
Printers, female	2		10		.75		.075				
Printers' devils	3	4	9.33	9	.723	.75	.077	.083	—	.027	3.73
Proofreaders	1	4	8	9	3.33	3.258	.416	.362	—	.072	2.16
Proofreaders, female	4	5	8.25	8.60	2.508	1.97	.304	.259	—	.528	21.45
Reporters	22	26	9.10	9.37	2.244	2.121	.244	.226	—	.183	5.48
Reporters, female	3	1	9.33	10	.61	.65	.065	.065	+	.04	6.56
Rulers	1	1	9.50	9	2.45	2.66	.258	.296	+	.21	8.57
Rulers, female	9		9.50		.079		.103				
Solicitors	2	1	8.83	9	1.917	2.00	.217	.222	+	.083	4.31
Stenographers		3		9.33		2.00		.214			
Stenographers, female	3	5	9	9	.90	1.14	.10	.127	+	.24	26.17
Stereotypers	10	9	8.35	8.56	2.733	2.916	.327	.311	—	.13	6.70
Stockmen	3	6	9.33	9.17	2.14	1.97	.220	.215	—	.17	7.94
Telegraph operators		1		10		2.75		.275			
Total	1,198	1,232	9.03	9.41	\$1.802	\$1.821	\$.20	\$.194	+	\$.019	1.06

Remarks.—This industry experienced a moderate growth in 1904 and 1905. For the latter year the tables show an increase of 1 per cent. in the average number of persons employed and in the average number of days of operation, and of 2 per cent. in the average yearly earnings of employees. Employment was remarkably uniform from month to month, the maximum of unemployment being less than 6 per cent. in 1904 and but slightly over 4 per cent. in 1905. About 15 per cent. of all employees were females. They were employed chiefly in the regular occupations of the industry. Their daily wages averaged \$1.00 in 1904 and \$1.02 in 1905. These wages were considerably higher than the average wages of women for all industries. The average daily wages of men were \$1.82 in 1904 and \$1.85 in 1905. The average hours for all employees were about 9 per day in 1904, but increased to nearly 9½ per day in the following year. It should be noted that in Table C the hours and wages of Carriers were not included in the calculation of the final averages, owing to the very brief period per day these persons were employed.

J. TOBACCO WAREHOUSES—16 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	8	8	.....	.....
Number of male partners	11	11	.....	.....
Number of female partners .....	.....	.....	.....	.....
Total number of partners	11	11	.....	.....
Number of corporations	8	8	.....	.....
Number of male stockholders	14	14	.....	.....
Number of female stockholders .....	.....	.....	.....	.....
Total number of stockholders	14	14	.....	.....
Total number of partners and stockholders	25	25	.....	.....
Smallest number of persons employed	242	275	+ 33	13.64
Greatest number of persons employed	1,733	1,749	+ 16	0.92
Average number of persons employed	688	752	+ 64	9.30
Average days in operation	244	243	— 1	0.41
Average yearly earnings	\$307 07	\$306 27	— \$1 40	0.46

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentage of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	270	1,158	15.58	68.21	84.42	33.79
February	433	1,503	24.99	89.37	75.01	10.63
March	1,733	1,749	100.—	100.—		
April	1,687	1,516	97.35	80.68	2.65	13.32
May	1,230	889	70.98	50.83	29.02	49.17
June	929	361	53.68	20.64	46.32	79.35
July	628	319	36.24	18.24	63.76	81.70
August	316	275	18.23	15.72	81.77	94.28
September	228	292	15.46	16.70	84.54	83.30
October	250	296	14.43	16.92	85.57	83.06
November	266	285	15.35	16.29	84.65	83.71
December	242	325	13.96	18.58	86.04	81.42
Average	688	752	39.70	43.00	60.30	57.00

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no. of persons.		Average hours per day.		Average wages per day.		Average wages per hour.		Increase, +, or decrease, —, per cent. in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per cent.
Assorters	110	137	9.63	9.21	\$1.109	\$1.297	\$.124	\$.141	+.098	8.17
Assorters, female	740	758	9.29	9.31	1.007	1.075	.108	.115	+.068	6.75
Bundle clerks		4		10		1.50		.15		
Carpenters	8	10	9.80		1.668	1.72	.167	.176	+.092	3.11
Cases	4	5	8		1.875	1.968	.234	.292	+.093	4.93
Card punchers		1		10		1.67		.167		
Carriers	23	26	10	10	1.407	1.49	.147	.149	+.023	1.57
Cutters	10	11	8	8	2.484	2.47	.311	.309	— .014	.53
Dressers	2	3	8	8.67	2.50	2.50	.312	.298		
Dressers, female		2		8		1.00		.125		
Dryers	8	9	8	8	2.125	2.204	.26	.276	+.079	3.72
Engineers	2	2	9	9	3.32	3.15	.369	.35	— .17	5.12
Feeders, female	6	3	8	8	.887	1.00	.111	.125	+.113	12.74
Firemen	3	4	9.32	9	2.103	1.937	.225	.215	— .069	3.14
Foremen	4	7	9.50	10	2.418	2.357	.253	.236	— .061	2.52
Graders	5	2	8	10	2.20	2.25	.275	.225	— .05	9.27
Grinders	2		9		2.335		.259			
Handlers	68	56	9.45	10	1.131	.841	.113	.094	— .290	25.64
Handlers, female	1		8		1.50		.188			
Hand sizers	204	118	10	9.24	.775	1.125	.078	.122	+.35	45.13
Hand sizers, female	305	300	10	9	.80	1.00	.08	.111	+.20	25.00
Helpers	69	34	9.54	9.18	1.109	1.142	.116	.124	+.033	2.90
Helpers, female	34	2	9	9	1.243	1.33	.138	.148	+.077	7.81
Inspectors	31	28	10	10	2.018	1.982	.202	.198	— .036	1.78
Janitors	5	2	10	10	1.55	1.25	.155	.125	— .30	19.55
Laborers	50	67	9.96	9.94	1.659	1.764	.167	.158	— .069	5.61
Labelers, female	15	37	10	8	1.033	.923	.103	.113	+.11	10.61
Nailers	3		9.33		1.567		.168			
Packers	107	115	9.70	9.50	1.882	1.858	.194	.196	— .021	1.38
Packers, female	2	20	8	8	1.00	1.196	.125	.149	+.196	19.6
Printers	3	5	8	8	2.22	2.196	.278	.271	— .054	2.43
Samplers	1	1	10	10	2.00	2.00	.20	.30		
Shippers	3	8	8	8	2.163	2.583	.27	.323	+.42	19.60
Stampers	6	6	8	8	1.805	1.472	.226	.181	— .333	18.45
Stampers, female	15	1	8	8	.943	1.50	.118	.187	+.577	59.07
Stencillers	2	4	10	10	1.25	1.25	.125	.125		
Strippers	10		8		1.00		.125			
Strippers, female		20		8		.83		.10		
Sweepers	3		10		1.083		.108			
Teamsters	2	4	8	9	2.50	2.375	.312	.264	— .115	6.00
Timekeepers		1		10		1.75		.175		
Watchmen	1	2	12	11	2.67	2.12	.222	.191	— .55	21.07
Weighers	1	8	10	10	2.00	1.563	.20	.156	— .437	21.85
Weighers, female	9	12	8	8	.906	.58	.113	.11	— .026	2.87
Total	1,877	1,834	9.42	9.04	\$1.106	\$1.210	\$.117	\$.134	+.104	9.40

Remarks.—The stripping, sorting and packing of tobacco immediately after the first thaw of the winter gives employment annually to a large number of persons. The greater part of the work is finished in a few months. This accounts for the large average of unemployment reported—60 per cent. in 1904 and 57 per cent. in 1905. The average number of persons employed was 9 per cent. greater in the latter year. Nearly 2-3 of all employes were females. They were employed in the regular work of the industry, the majority as sorters. There was a substantial increase in their daily wages in 1905, the average for that year being \$1.05 as opposed to \$.96 in 1904. Men's wages increased from \$1.33 to \$1.49, but were still much lower than the average wages for male employees in all industries. A large number of the persons employed in this industry were minors.

K. MISCELLANEOUS—14 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms.....	13	13		
Number of male partners.....	21	21		
Number of female partners.....				
Total number of partners.....	21	21		
Number of corporations.....	1	1		
Number of male stockholders.....	2	2		
Number of female stockholders.....	1	1		
Total number of stockholders.....	3	3		
Total number of partners and stockholders..	24	24		
Smallest number of persons employed.....	230	120	— 100	57.14
Greatest number of persons employed.....	442	354	— 84	19.00
Average number of persons employed.....	370	284	— 86	23.24
Average days in operation.....	268	270	+ 2	0.75
Average yearly earnings.....	\$424 78	\$446 67	+\$21 89	5.15

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	280	130	63.35	83.52	36.65	66.48
February	305	190	69.01	53.07	30.99	46.93
March	332	208	75.11	59.10	24.89	41.90
April	414	331	98.67	92.46	6.33	7.54
May	391	277	85.46	77.38	11.54	22.62
June	442	318	100.—	88.83	—	11.17
July	399	318	90.27	88.88	9.73	11.17
August	396	354	87.83	95.88	12.67	1.12
September	415	358	93.89	100.—	6.11	—
October	403	366	91.18	99.44	8.82	0.56
November	382	340	83.81	94.97	16.19	5.08
December	314	233	71.04	65.09	28.96	34.91
Average	370	284	83.71	79.35	16.29	20.67

TABLE C—OCCUPATIONS AND WAGES OF EMPLOYEES.

Occupations.	Total no of persons.		Average hours per day.		Average wage per day.		Average wages per hour.		Increase, +, or decrease, —, per day in 1905.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt.	Per ct.
Bottle washers	1	9	—	—	\$2.00	—	\$2.22	—	—	—
Carpenters	1	10	—	—	2.25	—	.225	—	—	—
Cement workers	21	14	10	10	\$2.024	\$1.71	\$2.202	.217	+ \$1.47	7.26
Clerks	2	4	10	9.25	1.625	1.835	.162	.187	+ .240	14.77
Clerks, female	120	6	9	9	.938	.32	.104	.911	— .118	12.58
Curb setters	4	10	—	—	4.00	—	.400	—	—	—
Deckmen	3	9	—	—	1.50	—	.164	—	—	—
Electricians	5	10	10	10	2.20	2.25	.220	.225	+ .05	2.27
Engineers	5	5	9.8	10.8	2.35	2.45	.240	.227	+ .10	4.26
Feeders, female	—	7	—	9	—	.95	—	.106	—	—
Firemen	2	2	10	10	1.625	1.625	.163	.163	—	—
Fishermen	—	3	—	12	—	1.75	—	.146	—	—
Foremen	6	7	10	10	2.343	2.679	.234	.269	+ .337	14.39
Graders	2	5	10	10	3.00	2.30	.300	.230	— .70	23.33
Helpers	16	7	9.63	9.85	1.333	1.379	.138	.143	+ .046	3.45
Helpers, female	—	1	—	10	—	1.01	—	.101	—	—
Laborers	172	137	9.64	9.99	1.75	1.839	.182	.184	+ .069	5.00
Linemen	3	10	—	—	2.50	—	.250	—	—	—
Masons	1	3	10	10	2.75	3.50	.275	.350	+ .25	9.00
Masons' helpers	2	—	—	9	1.75	—	.194	—	—	—
Millers	1	1	10	10	2.25	2.00	.225	.200	— .25	11.11
Pavers	7	4	10	10	2.788	3.00	.279	.300	+ .214	7.68
Pile drivers	15	15	10	10	2.167	2.167	.217	.217	—	—
Pipe layers	1	9	—	—	2.75	—	.306	—	—	—
Pipe layers' helpers	2	9	—	—	1.75	—	.194	—	—	—
Plumbers	8	7	8	9	3.408	3.289	.426	.411	— .120	8.52
Plumbers' helpers	1	1	9	9	.75	1.00	.833	.125	+ .25	33.33
Printers	12	13	9.25	9.23	2.760	2.025	.297	.219	— .744	23.26
Pumpmen	4	4	9.5	9.5	2.00	2.00	.215	.215	—	—
Pumpmen's helpers	4	2	9.5	9	1.825	1.50	.171	.164	— .125	7.09
Roofers	1	1	10	10	2.00	2.00	.200	.200	—	—
Steam fitters	7	10	8	8	3.00	2.775	.375	.347	— .225	7.50
Steam fitters' helpers	5	9	8	8	1.50	1.417	.188	.177	— .083	4.57
Stenographers	1	—	—	10	1.50	—	.150	—	—	—
Teamsters	16	15	10	9.93	3.313	1.847	.331	.193	— 1.465	44.25
Warehousemen	—	3	—	10	—	1.838	—	.183	—	—
Watchmen	—	1	—	10	—	1.75	—	.175	—	—
Wrappers, female	4	6	10	9.17	1.085	1.153	.109	.126	+ .068	6.27
Total and average	453	305	9.53	9.73	\$1.738	\$1.947	\$1.822	\$2.000	+ \$2.113	19.83

Remarks.—There was a decrease of 23 per cent. in 1905 in the number of persons employed in the miscellaneous industries which are included in this group, and an increase of 5 per cent. in their average yearly earnings. The average number of days of operation was small each year—268 and 270. Employment was very irregular, a maximum of 37 per cent. of unemployment occurring in 1904 and of 66 per cent. in 1905. Women were employed chiefly in subsidiary occupations. Their average daily wages were \$.94 in 1904 and \$.99 in 1905. Men's wages for the two years were \$2.03 and \$2.02. The wages of both were therefore higher than the average, each year.

L. SUMMARY OF 11 INDUSTRIES—415 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	255	254	— 1	.39
Number of male partners	350	344	— 6	1.71
Number of female partners	16	17	+ 1	6.25
Total number of partners	366	361	— 5	1.37
Number of corporations	160	161	+ 1	.63
Number of male stockholders	1,420	1,426	+ 6	.42
Number of female stockholders	374	376	+ 2	.54
Total number of stockholders	1,794	1,802	+ 8	.45
Total number of partners and stockholders	2,160	2,163	+ 3	.14
Total number of persons employed	5,799	6,834	+ 1,035	17.85
Greatest number of persons employed	8,006	7,819	— 187	2.34
Average number of persons employed	7,239	7,326	+ 87	1.20
Average days in operation	269	269		
Average yearly earnings	\$491 21	\$489 47	— \$1.74	.35

TABLE B—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905	1904.	1905.
January	5,799	6,834	72.43	87.40	27.57	12.60
February	6,108	7,339	76.29	93.89	23.71	6.14
March	7,400	7,486	92.43	95.74	7.57	4.26
April	7,887	7,819	96.51	100.—	1.49	
May	7,977	7,671	99.63	98.09	0.37	1.91
June	7,886	7,297	98.49	93.39	1.51	6.63
July	8,006	7,223	100.—	93.38		6.62
August	7,507	7,306	98.77	93.67	1.23	6.43
September	7,475	7,318	93.37	93.72	6.63	6.28
October	7,392	7,310	92.33	93.49	7.67	6.51
November	7,032	7,314	87.83	93.54	12.17	6.46
December	6,397	6,968	79.89	89.44	20.11	10.56
Average	7,239	7,326	90.42	93.69	9.58	6.31

TABLE C—CLASSIFICATION OF DAILY WAGES.

Classified daily wages, (inclusive).	Total number of persons employed.						Average wages per day.					
	Male.		Female.		Total.		Male.		Female.		Total.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
\$.33 or less..	87	86	6	4	93	90	\$0.20	\$0.209	\$0.29	\$0.31	\$0.206	\$0.214
.34 to .41.	5	11	2	4	7	15	.376	.381	.40	.402	.383	.387
.42 to .49.	4	2	14	9	18	11	.448	.435	.435	.447	.438	.445
.50 to .58.	93	89	107	98	200	187	.518	.517	.515	.527	.516	.528
.59 to .66.	47	32	33	32	80	64	.622	.614	.614	.611	.617	.613
.67 to .74.	58	80	100	212	158	242	.682	.673	.691	.712	.688	.707
.75 to .83.	329	144	651	264	980	398	.763	.765	.788	.794	.780	.784
.84 to .91.	21	51	199	98	220	149	.870	.871	.850	.883	.862	.880
.92 to .99.	4	16	69	139	73	154	.920	.937	.941	.947	.940	.946
1.00 to 1.08.	284	262	389	630	623	892	1.001	1.008	1.005	1.008	1.003	1.007
1.09 to 1.16.	12	16	78	23	90	39	1.138	1.123	1.101	1.107	1.106	1.113
1.17 to 1.24.	45	63	79	167	117	229	1.188	1.173	1.189	1.176	1.188	1.175
1.25 to 1.33.	168	183	322	136	400	319	1.205	1.209	1.269	1.267	1.268	1.288
1.34 to 1.41.	81	42	6	45	87	87	1.391	1.363	1.392	1.353	1.391	1.358
1.42 to 1.49.	14	37	2	97	16	134	1.436	1.475	1.480	1.479	1.434	1.477
1.50 to 1.58.	729	711	57	73	786	794	1.502	1.501	1.503	1.501	1.502	1.501
1.59 to 1.66.	301	307	9	12	310	319	1.646	1.637	1.633	1.648	1.645	1.637
1.67 to 1.74.	129	197	13	11	142	208	1.678	1.691	1.681	1.670	1.678	1.690
1.75 to 1.83.	1,382	1,256	3	5	1,385	1,201	1.756	1.758	1.803	1.770	1.756	1.758
1.84 to 1.91.	146	108	.....	2	146	110	1.863	1.835	.....	1.870	1.833	1.876
1.92 to 1.99.	19	19	.....	3	19	19	1.920	1.930	.....	1.920	1.930	.....
2.00 to 2.08.	1,090	1,096	3	3	1,093	1,104	2.001	2.001	2.00	2.00	2.001	2.001
2.09 to 2.16.	48	80	.....	2	48	80	2.138	2.120	.....	2.138	2.120	.....
2.17 to 2.24.	30	58	.....	2	30	60	2.182	2.183	.....	2.182	2.183	.....
2.25 to 2.33.	504	511	.....	.....	504	511	2.259	2.259	.....	2.259	2.259	.....
2.34 to 2.41.	50	49	.....	.....	50	49	2.392	2.385	.....	2.392	2.385	.....
2.42 to 2.49.	20	7	.....	.....	20	7	2.476	2.453	.....	2.476	2.453	.....
2.50 to 2.58.	506	594	4	5	510	599	2.502	2.501	2.50	2.50	2.502	2.501
2.59 to 2.66.	34	29	.....	.....	34	29	2.641	2.625	.....	2.641	2.625	.....
2.67 to 2.74.	43	54	.....	.....	43	54	2.682	2.682	.....	2.682	2.682	.....
2.75 to 2.83.	235	181	1	6	236	187	2.784	2.780	2.830	2.788	2.784	2.780
2.84 to 2.91.	48	36	2	1	50	37	2.864	2.858	2.870	2.850	2.863	2.858
2.92 to 2.99.	3	2	.....	.....	3	2	2.923	2.935	.....	2.923	2.935	.....
3.00 to 3.08.	186	214	2	2	188	216	3.00	3.005	3.00	3.00	3.00	3.004
3.09 to 3.16.	7	3	.....	.....	7	3	3.160	3.140	.....	3.160	3.140	.....
3.17 to 3.24.	14	38	.....	.....	14	38	3.184	3.218	.....	3.184	3.218	.....
3.25 to 3.33.	67	69	.....	.....	67	69	3.305	3.300	.....	3.305	3.300	.....
3.34 to 3.41.	13	20	.....	.....	13	20	3.371	3.354	.....	3.371	3.354	.....
3.42 to 3.49.	3	3	.....	.....	3	3	3.447	3.460	.....	3.447	3.460	.....
3.50 to 3.58.	76	75	.....	.....	76	75	3.501	3.501	.....	3.501	3.501	.....
3.59 to 3.66.	19	18	.....	.....	19	18	3.617	3.61	.....	3.617	3.615	.....
3.67 to 3.74.	11	19	.....	.....	11	19	3.683	3.702	.....	3.683	3.702	.....
3.75 to 3.83.	24	17	.....	.....	24	17	3.772	3.775	.....	3.772	3.775	.....
3.84 to 3.91.	22	9	.....	.....	22	9	3.877	3.867	.....	3.877	3.867	.....
3.92 to 3.99.	11	.....	.....	.....	11	.....	3.980	.....	.....	3.980	.....	.....
4.00 to 4.08.	138	47	.....	.....	138	47	4.005	4.002	.....	4.005	4.002	.....
4.09 to 4.16.	14	.....	.....	.....	14	.....	4.130	.....	.....	4.130	.....	.....
4.17 to 4.24.	20	12	.....	.....	20	12	4.190	4.185	.....	4.190	4.185	.....
4.25 to 4.33.	5	6	.....	.....	5	6	4.248	4.272	.....	4.248	4.272	.....
4.34 to 4.41.	4	1	.....	.....	4	1	4.450	4.420	.....	4.450	4.420	.....
4.42 to 4.49.	33	98	.....	.....	33	98	4.500	4.502	.....	4.500	4.502	.....
4.50 to 4.58.	1	5	.....	.....	1	5	4.560	4.604	.....	4.560	4.604	.....
4.59 to 4.66.	3	9	.....	.....	3	9	4.680	4.710	.....	4.680	4.710	.....
4.67 to 4.74.	6	2	.....	.....	6	2	4.830	4.775	.....	4.830	4.775	.....
4.75 to 4.83.	1	.....	.....	.....	1	.....	4.900	.....	.....	4.900	.....	.....
4.84 to 4.91.	1	.....	.....	.....	1	.....	4.920	.....	.....	4.920	.....	.....
4.92 to 4.99.	15	21	.....	.....	15	21	5.00	5.004	.....	5.00	5.004	.....
5.00 to 5.08.	1	.....	.....	.....	1	.....	5.420	.....	.....	5.420	.....	.....
5.09 to 5.16.	3	.....	.....	.....	3	.....	5.50	5.50	.....	5.50	5.50	.....
5.17 to 5.24.	7	.....	.....	.....	7	.....	5.817	5.824	.....	5.817	5.824	.....
5.25 to 5.33.	6	.....	.....	.....	6	.....	5.900	.....	.....	5.900	.....	.....
5.34 to 5.41.	113	77	.....	.....	113	77	6.00	6.00	.....	6.00	6.00	.....
5.42 to 5.49.	1	.....	.....	.....	1	.....	6.33	6.33	.....	6.33	6.33	.....
5.50 to 5.58.	3	.....	.....	.....	3	.....	6.67	.....	.....	6.67	.....	.....
5.59 to 5.66.	1	.....	.....	.....	1	.....	7.50	.....	.....	7.50	.....	.....
5.67 to 5.74.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5.75 to 7.50.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total and av.	7,321	7,106	2,144	2,470	9,465	9,240	\$2.007	\$2.033	\$1.968	\$1.013	\$1.709	\$1.804

Remarks.—For the 11 minor industries as a whole, there was a decrease of 2 per cent. in 1905 in the number of persons employed, and of less than 1 per cent. in the average yearly earnings of employees. The average number of days of operation, 289 each year, was considerably less than the total number of working days in a year. Employment was more uniform in 1905, the average unemployment being but 6 per cent. in that year, as opposed to nearly 10 per cent. in 1904. Female employees were each year somewhat less than $\frac{1}{4}$ of the total number. The daily wages both of men and of women were considerably higher each year than the average wages for the respective sexes in the 51 larger industries.

M. SUMMARY OF 62 INDUSTRIES—1513 ESTABLISHMENTS.

TABLE A—MANAGEMENT AND OPERATION.

Classification.	Number, in		Increase, +, or decrease, —, in 1905.	
	1904.	1905.	Amount.	Per cent
Number of private firms	700	677	— 23	3.29
Number of male partners	1,042	980	— 62	5.95
Number of female partners	58	63	+ 7	12.50
Total number of partners	1,098	1,043	— 55	5.01
Number of corporations	813	839	+ 26	2.83
Number of male stockholders	16,081	12,886	— 3,195	19.87
Number of female stockholders	3,566	2,259	— 1,307	36.65
Total number of stockholders	19,647	15,145	— 4,502	22.91
Total number of partners and stockholders	20,715	16,189	— 4,526	21.87
Smallest number of persons employed	74,659	90,031	+ 15,372	7.20
Greatest number of persons employed	82,830	89,035	+ 6,205	7.49
Average number of persons employed	80,195	85,436	+ 5,241	6.54
Average days in operation	298	300	+ 2	0.67
Average yearly earnings	\$467.69	\$471.30	+ \$3.61	0.79

TABLE B RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT.

Months.	Total no. of persons employed in		Percentages of			
			Employment in		Unemployment in	
	1904.	1905.	1904.	1905.	1904.	1905.
January	74,659	80,031	90.13	89.89	9.87	10.11
February	76,322	80,964	92.14	90.93	7.86	9.07
March	78,910	83,469	95.27	93.75	4.73	6.25
April	79,812	81,481	93.36	94.89	3.64	5.11
May	82,179	85,533	99.21	96.07	0.79	3.93
June	82,746	85,618	99.90	96.16	0.10	3.84
July	82,532	86,114	99.64	96.72	0.36	3.28
August	81,830	87,268	100.—	98.04	—	1.96
September	81,998	87,843	98.99	98.61	1.01	1.34
October	81,298	88,267	98.15	99.14	1.85	0.86
November	80,683	89,035	97.42	100.—	2.58	—
December	78,356	86,581	94.60	97.24	5.40	2.76
Average	80,195	85,436	96.82	95.90	3.18	4.04

TABLE C.—NUMBER AND WAGES OF EMPLOYEES IN ALL INDUSTRIES.

(1) SUMMARY OF 51 INDUSTRIES—1,098 ESTABLISHMENTS.

Number.	Industries.	Total no. of persons.			Average wages per day.						Increase, +, decrease, —, per day in 1907.							
		Male.		Female.	Total.		Male.		Female.	Total.	Total.		Male.		Female.	Total.		
		1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.	Amt	Pret.	Amt.	Pret.	
1	Agricultural implements	3,198	3,673	14	22	3,212	3,695	1,848	1,978	1,000	987	\$	\$	7.03	—0.19	1.90	—0.28	6.94
2	Artisans' tools	78	87	—	—	78	87	1,810	1,806	—	—	1,810	1,806	0.45	—0.04	—	—	0.22
3	Bakers'	279	267	49	53	328	320	1,922	1,907	919	917	7.73	7.85	0.44	0.42	22	20	1.13
4	Beef and pork packing	1,373	1,456	18	25	1,391	1,481	1,799	1,872	1,023	1,000	7.88	8.38	+0.53	+0.03	39	49	2.74
5	Blank books and stationery	109	123	184	134	293	257	1,644	1,825	705	768	1,053	1,274	+0.23	+0.08	8.93	+0.19	20.76
6	Boilers and tanks	673	701	—	—	673	701	1,998	1,989	—	—	1,998	1,989	—0.09	—0.09	—	—0.09	1.45
7	Books and shoes	1,222	1,541	879	928	2,401	2,469	1,690	1,641	1,035	991	1,470	1,397	—0.09	—0.04	4.25	—0.03	3.66
8	Boxes (packing)	957	974	9	15	966	989	1,371	1,403	767	700	1,359	1,382	0.19	0.11	8.74	0.23	1.88
9	Boxes (paper and cigar)	361	329	480	467	841	789	1,489	1,417	754	824	1,078	1,063	+0.08	+0.17	9.28	+0.05	5.25
10	Brass and copper goods	1,063	1,219	64	37	1,127	1,256	1,818	1,845	921	1,033	1,767	1,821	—0.07	—0.12	12.16	+0.04	2.82
11	Brick and tile	613	514	—	—	613	515	1,607	1,682	830	1,607	1,681	1,075	4.04	—	18.21	+0.374	4.66
12	Brooms and brushes	71	68	3	2	74	65	1,199	1,313	917	738	1,187	1,236	+0.114	9.31	1.67	—	0.09
13	Chairs	2,647	2,742	224	249	2,871	2,991	1,305	1,335	653	680	1,255	1,291	+0.090	9.30	0.27	4.13	0.26
14	Cigars	520	478	268	293	788	772	1,891	1,841	882	1,060	1,548	1,544	—0.050	2.64	1.78	20.18	0.22
15	Clothing	386	490	1,505	1,392	2,041	1,882	1,932	2,161	1,009	1,002	1,252	1,304	+0.239	11.85	0.07	—	0.62
16	Confectionery	342	398	721	753	1,063	1,121	1,410	1,383	622	658	876	886	0.047	3.34	+0.08	6.12	0.13
17	Cooperage	352	406	—	—	352	401	1,966	2,059	600	1,965	2,053	0.683	4.73	—	0.07	—	1.48
18	Cotton and linen goods	375	354	645	607	1,020	961	1,372	1,478	873	868	1,059	1,111	+0.108	7.73	+0.03	2.63	0.43
19	Creameries	101	101	—	—	101	101	1,687	1,813	—	—	1,687	1,813	+0.126	7.39	—	1.26	7.59
20	Dyeing and cleaning	65	85	110	111	175	196	1,625	1,659	869	853	1,150	1,208	+0.084	2.02	—0.16	1.84	0.50
21	Electric and gas supplies	311	328	29	26	340	354	1,869	1,914	747	792	1,773	1,832	0.045	2.41	+0.045	6.23	0.69
22	Excelsior	110	127	66	6	176	133	1,490	1,530	658	600	1,178	1,410	+0.140	0.90	—0.09	1.37	0.32
23	Fancy articles	298	318	158	186	456	504	1,781	1,675	697	730	1,410	1,236	+0.113	6.31	+0.03	4.73	0.84
24	Flour and feed	716	685	3	2	719	687	1,824	1,844	1,300	500	1,822	1,841	+0.020	1.04	—0.860	64.01	0.19
25	Food preparations	1,472	1,652	552	843	2,024	2,495	1,553	1,516	869	866	1,372	1,246	—0.187	—0.38	—0.23	2.59	1.54
26	Furniture	8,518	3,865	101	106	3,619	3,473	1,477	1,517	933	905	1,462	1,497	0.040	2.71	—0.028	3.00	0.95
27	Furs, gloves and mittens	348	417	620	679	968	1,096	1,977	1,871	1,060	985	1,402	1,324	+0.100	5.68	—0.06	8.80	0.78
28	Iron	4,740	5,501	46	46	4,740	5,501	1,847	1,982	800	1,147	1,932	1,115	+0.623	—	—	10.5	5.66
29	Knit goods	568	568	2,299	2,358	2,857	2,921	1,656	1,653	869	887	1,041	1,085	+0.003	—	—	23	0.06
30	Leather	8,791	4,448	287	379	1,066	4,824	1,690	1,718	920	850	1,647	1,083	—0.106	—	—	7.61	1.23

31	Lime and cement.....	609	450	3	60	633	1,727	583	1,508	1,717	+154	9.79	149	9.50
32	Lumber.....	11,877	11,017	121	180	11,498	11,307	1,771	1,771	1,774	+386	2.03	185	1.99
33	Machinery.....	6,481	7,017	52	55	6,513	7,072	2,091	1,881	2,082	+015	72	115	53
34	Mail.....	307	314	340	367	314	340	1,998	2,038	+049	2.42	1.37	760	8.72
35	Malt liquors.....	2,318	2,753	246	367	2,764	3,121	1,909	1,942	1,801	-041	1.45	145	3.22
36	Office and store fixtures.....	1,085	1,651	1	1	1,085	1,052	1,776	1,811	1,810	+035	1.97	034	1.91
37	Paper and pulp.....	3,160	3,076	73	624	3,814	3,700	1,671	1,711	1,777	+067	2.01	87	1.81
38	Saddle y.....	2,241	2,8	149	111	338	379	1,816	1,817	1,549	-001	06	121	8.28
39	Sash, doors, etc.....	2,494	2,626	1	2,494	2,633	1,811	1,647	1,641	1,645	+006	2.82	034	2.11
40	Sheet metal.....	1,8	1,880	576	390	2,445	2,480	1,488	1,527	1,331	-089	2.04	57	2.25
41	Ships and dry docks.....	673	624	12	673	938	2,094	2,115	2,064	2,101	+019	91	005	24
42	Snap and grease.....	54	61	43	25	107	85	1,916	1,814	1,993	+102	5.32	101	3.46
43	Starch.....	105	105	2	3	107	108	1,995	2,006	1,480	-056	014	050	76
44	Staves and headings.....	282	208	...	292	08	1,629	1,533	1,62	1,578	-076	4.67	274	4.67
45	Stones.....	1,164	763	1	1,164	764	2,204	2,417	2,204	2,416	+216	9.44	012	9.62
46	Structural iron.....	538	581	14	17	567	578	1,738	1,908	1,940	+260	14.96	236	14.62
47	Trunks and valises.....	318	303	101	118	422	421	1,619	1,720	1,460	-071	4.31	030	2.05
48	Wagon.....	2,348	2,787	32	31	2,602	2,818	1,850	1,489	1,890	+089	2.91	080	2.12
49	Wood-ware.....	1,045	1,081	331	1,085	1,031	1,612	1,651	1,612	1,654	+042	28	020	73
50	Woolen mills.....	3,7	30	433	423	600	723	1,541	1,517	1,143	-004	37	020	2.58
51	Miscellaneous.....	1,784	1,880	597	674	2,381	2,534	1,946	2,046	1,734	-312	8.02	132	1.61
	Total and average.....	70,470	73,340	12,271	12	916,92	714,812	1,762	1,807	1,632	-045	2.61	022	2.27

2) SUMMARY OF 11 INDUSTRIES—415 ESTABLISHMENTS.

1	1	Peverages.	304	298	2	2	310	290	1,382	1,612	1,175	1,125	1,579	1,099	030	1,89	050	4,26	+030	1,90
2	2	Chemicals.	72	75	23	21	95	16	1,720	1,634	500	890	1,528	1,471	065	5,49	010	1,11	-057	3,73
3	3	Coal and wood	1,752	1,742	...	...	1,752	1,742	2,290	2,273	...	...	2,290	2,273	007	...	...	...	...	1,03
4	4	Contractors.	1,033	1,007	...	...	1,037	1,007	2,574	2,425	825	830	2,332	2,424	067	2,84	005	07	-072	3,06
5	5	Elevators.	234	116	1	1	255	180	2,049	2,045	1,500	1,750	2,067	2,013	024	1,16	230	16,67	-024	1,16
6	6	Laundries.	133	137	570	570	703	707	991	1,062	980	1,006	1,170	1,102	029	1,45	017	1,72	+013	1,10
7	7	Light, water and power	1,185	1,201	5	3	1,186	1,204	1,874	1,870	830	900	1,922	1,867	033	2,78	030	3,61	+035	2,83
8	8	Lithography and engraving	209	386	110	105	619	658	1,278	1,225	615	699	1,464	1,478	017	1,71	016	8,37	+073	3,83
9	9	Printing and publishing	1,016	1,034	182	198	1,198	1,234	1,822	1,853	1,003	1,016	1,607	1,713	061	1,11	016	1,60	+022	1,30
10	10	Tobacco warehouses	753	679	1,127	1,155	1,871	1,834	1,331	1,488	773	1,041	1,064	1,210	137	38,49	291	38,49	+011	9,40
11	11	Miscellaneous	329	285	124	20	433	303	2,033	2,016	912	943	1,764	1,847	018	09	051	5,41	+213	1,25
		Total and average.	7,321	7,166	2,144	2,071	9,465	9,210	2,007	2,033	952	1,013	1,709	1,801	026	30	+061	6,41	+035	1,98

3) SUMMARY OF 62 INDUSTRIES—1,518 ESTABLISHMENTS.

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																												
Total and average of 62 industries.	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1,513 establishments.	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	77	79	80	80	81	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49																																																																														

Remarks.—A few facts of those presented in the summary tables are of considerable interest. Of the 1513 establishments from which reports were received, 23 which were under private control at the beginning of 1905 were organized as corporations during the year, and reported as such in 1906. The average number of days of operation, 298 in 1904 and 300 in 1905, was somewhat less than the usual number of working days in a year. The increase of over 6½ per cent in the average number of persons employed gives evidence of a substantial improvement in industrial conditions within the state.

For the 62 industries as a whole, employment was very regular each year. The average unemployment was only 3 per cent in 1904 and 4 per cent in 1905. But it should be noted that there was an almost uniform increase from month to month in 1905 in the number of persons employed, with the maximum number in November. The percentage of unemployment in any month of that year represents in reality therefore not the proportion of persons idle in that month, but rather the natural increase in the total number of wage-earners in the state that occurred between that month and November. Apparently there was very little actual idleness on the part of employees in that year.

The facts presented in Table C require little comment. The average daily wages of all employees experienced a moderate gain in 1905—slightly over 2 per cent. The increase in the wages of male employees was nearly 2½ per cent; of female employees, only 2-3 of 1 per cent. Of the 62 industries, 43 paid higher average wages to their male employees in 1905 than in the preceding year; the remaining 19, lower wages. Only 22 paid higher average wages to their female employees, as against 25 that paid a lower average. In one industry the same wages were paid as in 1904. In 6, no female help was employed in either year. Seven gave employment to women in 1905, which had not the preceding year. Only one employed women in 1904 and not in 1905. In 47 industries the average wages of all employees were higher in 1905, as opposed to 15 in which lower average wages were paid. Contractors paid the highest average daily wages received by male employees—\$2.36 in 1904 and \$2.42 in 1905. The industry designated as Furs, Gloves and Mittens paid the highest average daily wages received by female employees in 1904—\$1.08. In the cigar industry, females were

paid the highest wages they received in 1905—\$1.06. This is however exclusive of those industries in which only a very small percentage of the employees were women.

The average hours of labor for men increased from 9.91 per day in 1904 to 9.92 in 1905. The hours of women, from 9.64 per day to 9.71. The hours of all employees, from 9.87 to 9.89. There was therefore no marked change in the average hours of either male or female employees in the period covered by this report. It is worthy of notice however that the increase in the average hours of women, although less than $\frac{3}{4}$ of 1 per cent, was nevertheless sufficient to counterbalance the slight increase in their average daily wages; so that their hourly wages were very slightly lower in 1905 than in 1904.

SUPPLEMENTARY TABLES.

The following tables are based upon returns from all establishments that reported in 1905. Of the 2382 establishments reporting in that year, 1513 have already been covered in the preceding tables. Of the additional 869, 621 were engaged in the leading industries, 248 in the minor. The manufacture of cheese has been included among the leading industries, thereby increasing the number to 52. In like manner, the manufacture of patent medicines has been included among the minor industries, increasing the number of these to 12.

TABLE I. MANAGEMENT AND OPERATION, 1905.

Classification.	For 52 leading industries— 1,719 es- tablish- ments.	For 12 minor industries— 663 es- tablish- ments.	Total, 61 indus- tries— 2,382 es- tablish- ments.
Number of private firms	762	392	1,154
Number of male partners	1,147	564	1,711
Number of female partners	102	20	122
Total number of partners	1,249	584	1,833
Number of corporations	957	271	1,228
Number of male stockholders	16,000	2,649	18,649
Number of female stockholders	2,439	505	2,944
Total number of stockholders	18,439	3,154	21,593
Total number of partners and stockholders	21,578	3,733	25,311
Smallest number of persons employed	81,292	9,585	90,877
Greatest number of persons employed	91,190	10,733	101,923
Average number of persons employed	87,291	10,081	97,372
Average days in operation	292	313	290

31	Leather.....	981,431.88	1,848,553.41	1,469,084.72	9,102,181.06	13,381,154.11	7.18	13.82	10.98	68.02	100.00
32	Lime and cement.....	834,071.82	582,212.96	320,832.14	2,275,067.75	2,032,188.68	42.03	28.65	15.79	13.53	100.00
33	Lumber.....	6,874,307.85	2,161,064.94	2,548,236.30	12,859,751.14	24,441,390.23	28.12	8.84	10.43	52.61	100.00
34	Machinery.....	755,983.96	2,471,986.82	4,336,776.47	7,537,162.80	15,101,910.15	5.00	16.37	28.72	49.91	100.00
35	M ill.....	477,888.05	1,973,572.87	929,519.63	2,017,621.08	3,388,609.63	8.85	36.56	17.22	37.37	100.00
36	Malt liquors.....	8,493,559.27	6,132,700.85	4,521,704.35	13,008,940.26	34,153,904.83	24.86	17.91	13.24	43.94	100.00
37	Office and store fixtures.....	161,736.11	362,539.24	300,100.88	2,767,534.01	10,583,913.20	10.27	23.75	18.81	48.15	100.00
38	Paper and pulp.....	1,436,182.86	2,801,110.19	4,775,644.02	2,825,567.16	11,841,504.23	12.13	23.68	40.33	24.86	100.00
39	Saddlery.....	8,850.00	21,150.00	25,311.49	144,791.71	15,300,103.20	4.42	10.57	12.63	72.86	100.00
40	Sash, doors, etc.....	507,618.39	625,703.07	678,636.01	2,211,246.03	4,023,263.50	12.62	15.55	16.87	54.96	100.00
41	Sheet metal.....	222,875.00	435,696.66	534,267.55	2,305,233.36	3,458,042.17	6.44	12.90	15.45	65.51	100.00
42	Ships and dry docks.....	826,489.08	644,402.31	682,667.91	401,919.67	2,555,479.00	32.34	25.22	28.71	15.73	100.00
43	Soap and grease.....	10,000.00	11,000.00	37,009.25	122,111.19	180,120.41	5.55	6.11	20.53	67.79	100.00
44	Starch.....	12,800.00	61,500.00	64,000.00	19,253.98	137,553.98	8.12	39.04	40.62	12.22	100.00
45	Staves and headings.....	31,700.00	31,500.00	45,750.00	145,649.50	237,569.50	13.47	12.23	17.76	56.54	100.00
46	Stone.....	782,723.73	528,761.11	537,203.61	645,103.04	2,491,793.49	31.41	21.22	21.56	25.81	100.00
47	Structural iron.....	177,869.38	322,570.34	540,504.58	768,427.75	1,806,902.05	9.81	17.83	29.88	42.48	100.00
48	Trunks and valises.....	49,000.00	86,820.00	65,700.50	460,634.40	1,061,654.90	7.40	13.05	9.93	68.62	100.00
49	W axons.....	429,752.28	918,878.06	578,179.80	4,523,338.42	6,480,144.56	6.64	14.61	8.92	68.80	100.00
50	Woodenware.....	78,625.00	155,382.00	95,431.55	295,814.80	625,253.85	12.58	24.85	15.28	47.31	100.00
51	Woolen goods.....	93,425.00	181,483.59	391,806.49	619,069.21	1,296,396.29	7.26	14.11	30.46	48.17	100.00
52	Mi-cellaneous.....	876,396.67	1,093,721.59	1,363,343.88	3,235,000.15	6,681,462.29	13.22	16.54	20.51	49.70	100.00
Total.....		\$30,237,894.60	\$35,476,922.21	\$41,772,674.07	\$107,233,239.39	\$211,409,888.90	14.31	16.78	18.18	50.73	100.00

TABLE IIIA.—VALUE OF MATERIALS AND LABOR EMPLOYED, AND OF PRODUCT, 1905.

SHOWING ALSO WHAT PER CENT EACH ITEM IS OF THE VALUE OF THE PRODUCT. BASED UPON REPORTS FROM THE 52 LEADING INDUSTRIES ONLY.

Number.	Industries.	Value of				Per cent of value of product.							
		Raw material used.	Other material used.	Wages paid.	Salaries paid.	Profit and minor expenses.	Goods made and work done.	Raw material used.	Other material used.	Wages paid.	Salaries paid.	Profit and minor expenses.	Goods made and work done.
								Pret.	Pret.	Pret.	Pret.	Pret.	Pret.
1	Agricultural implements	\$2,042,055 01	\$361,417 23	\$1,818,750 26	\$1,026,898 20	\$4,433,540 59	\$10,639,669 34	27.92	3.45	17.14	9.68	41.81	100.00
2	Artisans' tools	45,409 00	17,231 00	150,223 96	29,792 50	50,229 54	1,122,901 00	28.53	8.95	26.04	15.44	26.04	100.00
3	Bakers' tools	572,659 17	99,232 10	187,214 49	53,737 17	335,416 16	1,158,196 03	49.43	8.57	17.01	6.44	26.04	100.00
4	Beer and pork packing	12,896 84	539,104 77	668,183 05	180,035 14	923,690 96	15,248,878 76	84.5	9.67	4.56	1.16	6.04	100.00
5	Blank-books and stationery	216,161 85	61,843 27	149,228 35	40,921 28	36,573 71	536,727 56	39.18	11.11	26.31	7.33	15.55	100.00
6	Boilers and tanks	830,951 78	98,297 27	371,532 87	74,842 40	301,885 95	1,670,221 27	49.13	5.89	22.25	4.48	18.25	100.00
7	Boots and shoes	3,130,188 05	251,324 36	943,172 54	213,183 69	403,351 43	4,911,221 32	63.35	5.09	16.09	4.30	8.16	100.00
8	Boxes (packing)	1,013,834 14	91,031 83	359,011 13	44,007 77	330,580 34	1,843,977 71	54.95	5.05	19.47	2.60	17.93	100.00
9	Boxes (paper and cigar)	709,325 59	47,972 73	771,775 59	64,338 13	131,464 31	2,244,834 41	56.98	3.85	21.83	5.17	12.17	100.00
10	Brass and copper goods	1,255,039 58	236,567 40	669,491 41	229,394 82	577,108 58	2,986,039 77	41.87	7.89	23.33	7.65	19.26	100.00
11	Brick and tile	94,530 67	128,537 10	273,115 11	49,987 93	142,372 77	687,563 55	13.75	18.70	39.59	7.26	20.71	100.00
12	Brooms and brushes	91,998 47	12,027 48	48,200 92	21,518 58	45,524 74	219,260 19	41.95	5.49	21.98	9.82	21.76	100.00
13	Chairs	1,267,290 32	169,647 98	1,016,109 92	151,786 53	508,777 98	3,179,622 76	40.49	5.33	23.37	4.87	15.94	100.00
14	Cheese	417,397 05	21,157 19	19,111 75	4,632 00	32,038 98	544,324 43	8.68	3.99	3.51	0.02	5.89	100.00
15	Cigars	560,408 93	89,841 10	380,349 61	94,771 75	447,629 11	1,572,969 95	35.63	5.71	24.18	6.05	28.46	100.00
16	Clothing	2,870,285 43	126,911 43	820,893 51	238,148 06	902,430 29	5,009,668 72	57.31	2.53	16.39	5.75	18.02	100.00
17	Confectionery	1,528,558 70	137,759 42	263,149 82	246,301 65	300,651 25	2,498,226 84	61.18	6.52	11.73	9.54	12.03	100.00
18	Copperware	1,473,985 76	27,559 76	265,221 57	40,253 87	117,100 21	1,094,312 66	58.11	2.69	21.84	4.92	11.44	100.00
19	Cotton and linen	1,822,691 12	178,458 59	218,731 87	103,898 57	330,810 71	2,716,593 00	67.00	6.57	10.26	0.90	12.15	100.00
20	Creameries	3,359,476 62	176,433 27	167,720 11	36,599 30	379,140 45	4,132,369 96	81.34	4.27	4.06	0.00	9.17	100.00
21	Dyeing and cleaning	81,211 71	42,911 14	81,425 56	28,610 66	55,811 72	242,983 92	14.08	17.66	33.32	11.77	22.97	100.00
22	Electric and gas supplies	551,721 54	66,749 63	299,782 28	153,309 44	165,992 86	1,147,466 18	48.08	1.82	16.23	13.96	14.46	100.00
23	Excise	44,154 46	7,152 71	41,001 75	1,910 60	114,061 35	327,192 81	44.94	2.19	14.78	6.66	33.93	100.00
24	Fancy articles	270,034 46	31,897 93	184,098 04	41,402 36	114,461 35	481,709 96	43.42	5.13	25.88	6.06	14.41	100.00
25	Flour and feed	15,427,066 53	437,823 16	517,520 40	212,000 68	1,559,099 60	18,973,282 36	83.42	4.52	2.75	1.11	8.22	100.00

26	Food preparations	1,333,187 63	1,023,299 85	489,991 44	217,960 71	1,800,647 98	4,891,077 71	27,73	20,98	10,02	4 46	36 81	100.00
27	Furniture	2,141,488 96	382,093 01	1,462,618 2	332,140 60	973,835 75	5,212,174 55	41,09	7,52	26 91	5 90	18 48	100.00
28	Fur, gloves and mittens ..	1,471,381 00	118,430 19	1,118,350 19	118,960 89	197,537 80	2,339,161 25	63 82	5 09	18 00	5 11	8 48	100.00
29	Iron	8,884,220 00	1,225,907 92	2,685,470 50	371,039 05	2,914,163 11	16,856,040 58	51 82	7 49	18 09	2 28	17 82	100.00
30	Knit goods	2,034,368 33	370,901 75	967,497 63	186,068 29	486,947 49	4,036,030 49	50 16	9 14	23 85	4 84	12 01	100.00
31	Leather	16,027,970 35	2,228,752 31	2,286,814 74	299,754 24	2,348,468 57	23,141,210 21	69 26	9 65	9 66	1 80	10 13	100.00
32	Lime and cement	403,796 33	59,764 80	301,303 60	49,110 92	1,56,670 32	970,647 77	41 60	6 16	31 04	5 06	16 14	100.00
33	Lumber	10,773,037 16	751,923 56	5,184,180 26	665,381 86	4,604,645 04	22,000,137 88	48 55	3 42	23 55	3 16	20 92	100.00
34	Machinery	6,470,409 33	700,774 80	4,316,137 18	890,539 91	3,339,069 75	15,716,930 97	41 09	4 45	27 60	5 66	21 20	100.00
35	Malt	4,811,781 93	268,512 60	233,988 61	95,607 67	2,231,005 19	7,660,843 97	68 07	3 51	3 05	1 25	29 12	100.00
36	Malt liquors	4,314,314 74	1,560,165 44	1,941,200 98	744,266 81	11,294,778 28	19,871,735 28	21 71	8 03	9 77	3 75	36 77	100.00
37	Office and store fixtures ..	598,226 71	140,552 65	510,731 03	116,344 89	303,173 38	1,660,038 42	35 49	8 47	80 71	7 01	18 26	100.00
38	Paper and Pulp	6,990,768 70	1,787,177 22	1,912,453 96	267,492 74	1,460,919 61	12,428,810 23	56 17	14 38	13 36	2 31	11 75	100.00
39	Saddlery	491,472 02	127,855 80	153,724 11	36,934 00	89,389 49	902,865 42	51 87	14 11	17 08	4 09	9 90	100.00
40	Sash, doors, etc.	8,073,678 38	251,465 42	1,236,555 86	264,376 61	1,178,697 87	6,027,974 34	50 99	4 22	20 85	4 96	19 55	100.00
41	Sheet metal	2,781,566 46	316,130 71	922,241 35	25,247 91	483,929 23	4,708,455 67	58 33	6 63	19 55	5 35	10 14	100.00
42	Ships and dry docks	291,506 53	35,653 05	471,530 61	33,539 71	1,52,794 31	1,035,024 21	28 16	5 35	43 56	3 24	17 64	100.00
43	Soap and grease	296,638 68	7,400 00	38,603 60	48,767 13	57,680 82	449,120 24	66 05	1 65	8 59	10 96	12 85	100.00
44	Starch	128,801 88	28,737 79	2,118,066	2,677 30	47,257 70	227,639 33	56 59	10 43	11 06	1 17	20 75	100.00
45	Staves and headings	122,831 41	8,313 21	99,131 14	13,497 01	36,541 87	280,314 03	43 82	2 97	35 36	4 81	13 04	100.00
46	Stone	565,674 80	178,798 44	687,635 22	112,702 71	248,096 86	1,792,888 03	31 53	9 97	38 35	6 29	13 84	100.00
47	Structural iron	1,878,626 71	120,613 51	484,282 11	170,302 03	334,922 44	3,006,916 80	62 44	4 01	16 09	5 66	11 80	100.00
48	Trunks and valises	432,660 00	6,425 00	168,967 48	84,750 00	163,927 52	815,750 00	51 60	0 73	19 24	9 68	18 67	100.00
49	Wagons	3,419,742 77	381,272 55	1,449,500 76	311,372 02	1,283,850 12	6,740,986 24	50 43	4 59	21 58	4 59	18 67	100.00
50	Woodenware	710,785 77	59,961 91	460,074 74	41,272 12	309,032 82	1,551,167 36	45 82	3 87	27 78	2 61	19 92	100.00
51	Woolen goods	983,444 88	117,625 10	284,806 92	63,845 00	235,985 51	1,693,007 41	58 61	6 94	15 62	3 77	15 06	100.00
52	Miscellaneous	3,744,374 74	536,535 41	1,505,968 55	400,060 02	1,382,251 06	7,567,235 39	49 46	7 06	19 87	5 29	16 27	100.00
Total		\$185,351,572 03	\$16,714,537 03	\$41,032,908 97	\$6,677,419 96	\$50,863,831 34	\$256,660,269 31	53 9	6 51	16 00	3 77	19 82	100.00

TABLE III B.—ANALYSIS OF TABLE III A.—BASED UPON REPORTS FROM THE 52 LEADING INDUSTRIES ONLY.

Classification.	1905.
Value of goods made and work done (gross product).....	\$256,600,399 31
Value of stock used and other material consumed in production...	157,065,109 06
Industry product (gross product less value of stock and material)...	101,504,160 25
Wages and salaries (Labor's direct share of product)	50,730,328 91
Profit and minor expense fund (industry product less wages).....	50,863,881 34
Percentage of industry product paid in wages	Per cent.
Percentage of industry product devoted to profit and minor expenses	49.93
	50.07

TABLE IV. AVERAGE CAPITAL, ETC., PER EMPLOYEE.—BASED UPON REPORTS FROM THE 52 LEADING INDUSTRIES ONLY.

Classification.	1905.
Average capital per employee	\$2,407 37
Average product per employee	2,922 54
Average yearly earnings	467 58

TABLE V.—RANGE OF EMPLOYMENT AND OF UNEMPLOYMENT, 1905.

Months.	For 52 leading industries.			For 12 minor industries.			For 64 industries.		
	Number of persons employed.	Per cent. of		Number of persons employed.	Per cent. of		Number of persons employed.	Per cent. of	
		Employment.	Unemployment.		Employment.	Unemployment.		Employment.	Unemployment.
January	81,292	89.15	10.85	9,586	89.31	10.69	90,878	89.73	10.27
February	81,878	89.79	10.21	10,252	95.62	4.38	91,136	90.93	9.06
March	95,047	93.27	6.73	10,343	93.37	6.63	95,830	94.18	5.82
April	89,243	94.58	5.42	10,733	100.00	.....	95,976	97.73	2.27
May	88,124	96.64	3.36	10,305	96.37	3.63	95,486	97.24	2.76
June	88,764	97.34	2.66	9,980	92.98	7.02	98,744	97.50	2.50
July	89,732	98.40	1.60	9,921	92.43	7.57	99,657	98.39	1.61
August	91,187	99.99	0.01	9,968	92.78	7.22	101,148	99.87	0.13
September	91,190	100.00	.....	9,968	93.15	6.85	101,127	99.91	0.09
October	90,804	99.58	0.42	10,093	93.19	6.81	100,807	99.53	0.47
November	91,164	99.97	0.03	10,117	94.26	5.74	101,281	100.00	.....
December	88,428	96.97	3.03	9,710	90.47	9.53	98,138	96.08	3.92
Average	87,821	96.81	3.19	10,081	93.98	6.02	97,902	96.08	3.92

Remarks.—It will be noted that no marked difference exists between the averages presented in the supplementary tables and those obtained for the 1513 establishments previously tabulated. The average number of days of operation for 1905 is reduced however to 290, for the 2382 establishments, as against an average of 300 days for the 1513 establishments. There is a slight increase in the average capital and the average product per employee, and a slight decrease in the average yearly earnings of each. Tables II and III A are of interest, as showing the percentage of capital invested in each industry in land, buildings, etc., respectively; and the percentage which the value of the raw material used, of the wages paid, etc., is of the value of the product manufactured. From Table II it is seen that the capital invested in land averages about 14 per cent of the total capital invested; in buildings and fixtures, 17 per cent; in machinery, 18 per cent; while the cash capital needed for the conduct of the business averages over 50 per cent of the total. From Table IIIA it is seen that the value of the materials used constitutes on the average about 60 per cent of the value of the finished product; 20 per cent is paid in wages and salaries, and 20 per cent is devoted to the "profit and minor expense fund." It will be noted however that there are very wide variations from these averages in the case of many of the industries.

CONCLUSION.

Advantages offered by Wisconsin to manufacturing industries.— According to the United States census of 1900, Wisconsin ranked ninth in that year among the states in the total value of its manufactured products. It ranked first in the value of its lumber and timber products, second in dairy products, third in malt; fourth in agricultural implements, in leather products, and in malt liquors; fifth in paper and wood pulp, sixth in planing mill products; seventh in carriages and wagons and in foundry and machine shop products; and eighth in men's factory-made clothing, in flour and feed, and in factory-made furniture. This prominence as a manufacturing state is due primarily to four causes: an abundance of raw materials, a large available water power, a favorable location geographically, and excellent transportation facilities.

The forests of Wisconsin have for years furnished the most important of the raw materials. The lumber industry is naturally the one most directly dependent upon this material. But the products of the lumber industry furnish in turn part or all of the materials for many of the most important of the other industries of the state. Prominently among these may be mentioned the manufacture of sash doors and other planing mill products, carriages and wagons, railway cars, boats, agricultural implements, furniture, staves and headings, packing and cigar boxes, wooden-ware, excelsior, paper and pulp. Tanbark also is furnished to the tanning industry. From the great diversity of the farming products of the state result such industries as the manufacture of malt and malt liquors, flour and feed, food preparations, starch, butter and cheese, woolen goods, cigars and tobacco; the packing of beef and pork; the tanning of leather, and the consequent use of the product in the manufacture of boots and shoes, harness and other saddlery goods, gloves, mittens, and valises. Of the mineral resources of the state, granite, sandstone, and rhyolite are manufactured into monumental building stone and paving blocks, respectively. Limestone is used both as building stone, and as a flux in the manufacture of iron. Large quantities also are used for the manufacture of lime. Sand for use in iron moulding is present in abundance in the state. The existence of large deposits of excellent clay has given considerable importance to the manufacture of brick and tile. Although but little iron is mined within the state, immense quantities of the ore are mined just beyond its borders, and are reduced to a marketable form in this state. The product resulting from the general iron and steel industry furnishes a part or all of the materials for such industries as the manufacture of machinery, agricultural implements, artisans' tools, sheet metal, boilers, tanks, and architectural ironwork.

The total amount of water power in Wisconsin already developed is about 99,000 horsepower. Nearly \$20,000,000 is therefore saved to the manufacturers of the state each year, if the annual cost of one h. p., furnished by steam by means of the combustion of coal, be considered as \$20.

The rivers which together with their tributaries furnish the greater part of the power already utilized are the Fox, Wisconsin, Chippewa, Black, St. Croix, Oconto, Peshtigo, Menominee,

and Rock. Although additional water power is rapidly being developed, according to reports by the U. S. engineers, several times the number of horse power now employed remains as yet unutilized.

The favorable location of Wisconsin, in close proximity to the largest cities of the Middle West, on one hand, and but a moderate distance from the great agricultural regions beyond the Mississippi, on the other, gives the state a nearby market for a very large part of its manufactured products and at the same time places within easy reach a number of raw materials which are not produced in a sufficient quantity within the state.

The transportation facilities possessed by Wisconsin are excellent. Access to the state is afforded by vessels plying on the Great Lakes for more than 400 miles along the northern and eastern borders. On the western boundary there are about 250 miles of navigable rivers; while nearly every city situated upon the Great Lakes or the Mississippi has one or more rivers within its limits navigable for harbor purposes. The larger of the rivers already mentioned are navigable to a greater or less extent; notably the Fox, which permits of the passage of vessels of large draft as far as Oshkosh. Wisconsin is covered with a network of railways reaching to every portion of the state. The total mileage in 1906 was 7086 miles. The state is crossed by the Chicago-St. Paul line of the C. & N. W. Ry., the C. M. & St. P., the W. C., and the C. B. & Q. In addition to the very numerous branches of these systems there are 41 other roads doing business in this state. Having the option of either water or rail transportation, the majority of Wisconsin manufacturers have long enjoyed favorable railway rates. An efficient state railway rate commission is doing much to remove any inequitable conditions that may still exist.

Finally there should be mentioned among the advantages of Wisconsin as a manufacturing state what may be called a "co-operation of industries." Whenever the industries of any state become of a sufficiently varied character each branch of manufacturing demands for its material or for its tools the product of some other industry, and in return offers its product to be similarly used by this or a different industry. Such are the conditions in Wisconsin at the present time. Not only does the state send out its products far beyond its borders—many to Europe and other foreign continents—but it is also in a manu-

facturing way in a large measure "sufficient unto itself," each branch of its varied industries cooperating with and strengthening others.

Management and Operation of Establishments.—A slight tendency toward corporate management is evident in the returns from the 1513 establishments which reported in both 1904 and 1905. During the latter year 23 establishments which had existed as private firms organized as corporations. The proportion of corporations to private firms at the end of 1905 was 836 to 677.

The average number of days of operation for these establishments was 298 in 1904 and 300 in 1905. For 2382 establishments it was 290 in 1905. The number of working days per year in Wisconsin—i. e., exclusive of Sundays and legal holidays—is from 303 to 306. In neither of the two years therefore was the average number of days of operation as large as possible. It was even slightly farther from the maximum possible number than is at first apparent; since in a large number of establishments both day and night shifts were employed, thus increasing the average number of days of operation for all. The days in which the establishments were not in operation were however so few as to indicate a very satisfactory degree of activity in each of the two years considered.

Investment, and Value of Product.—For the 51 leading industries there was an increase of 4 per cent in 1905 in the total capital invested. Every item of investment showed a gain, the increase in the value of buildings and fixtures being the greatest—over 5 per cent. There was an increase of 11 per cent in the value of the materials used, of 8 per cent in the total wages and salaries paid, and of 10 per cent in the value of the output. The last gain is especially noteworthy in view of its being more than double the average increase per year in the value of the output during the decade from 1890 to 1900. This increase of 10 per cent serves more than any other single fact, to indicate the large growth of manufacturing in the state in the two years covered by this report.

Number of Employees and Range of Employment.—The largest number of employees in any month, in the 1513 establishments of the 62 industries reported upon, was 82,830 in 1904 and 89,035 in 1905. The average number per month for 1904 was 80,195; for 1905, 85,436. The number of those whose wages

were reported in detail was 77,794 in 1904 and 80,506 in 1905. For the 62 industries as a whole, employment was very uniform each year. The maximum of unemployment was in January and February. Such variations as existed in 1904 in the percentage employed each month were due to slight changes in general trade conditions—fluctuations in activity, due to any one of many different causes. In 1905 as has already been noted, there was a remarkably steady increase in the average number of employees for several months, with the maximum number in November. The regularity of this increase from month to month seems to indicate that the increase was one due to perfectly natural causes: Young persons became of such age as to begin work as wage-earners, and workmen immigrated to the state and found employment.

Employment of Women and Children.—In 1904, 14,415 female employees were reported; in 1905, 14,990. There was therefore an increase of 3.9 per cent in the latter year. The increase in the average number of all persons employed was about 6.5 per cent. There was therefore a smaller percentage of increase in the number of women employed, than in the total number of employees. This means also that the number of female employees was smaller in proportion to the number of all employees in 1905 than in 1904.

No separate report upon the number of children employed in the various industries has been secured by this Bureau. From the data on hand, however, it may be computed that children are employed in considerable numbers in 12 of the 62 industries reported upon. The majority of these belong to the class known as "parasitic industries,"—industries carried on generally at large manufacturing centers, and utilizing the labor of the children of workmen employed in other industries.

Hours of Labor, and Wages.—There was a very slight increase in the average hours of labor of all employees, for 1905. The hours of men were 9.91 and 9.92 per day for 1904 and 1905 respectively; those of women, 9.64 and 9.71. Men therefore worked about 16 minutes more per day than women in 1904, and about 13 minutes more in 1905.

The average daily wages of all employees were about 2 per cent higher in 1905 than in 1904; those of men, $2\frac{1}{2}$ per cent; those of women, less than 1 per cent. In the 51 leading industries, there was a very slight decrease in the average daily wages

of women, which was offset only by a considerable increase in the wages of those employed in the 11 minor industries.

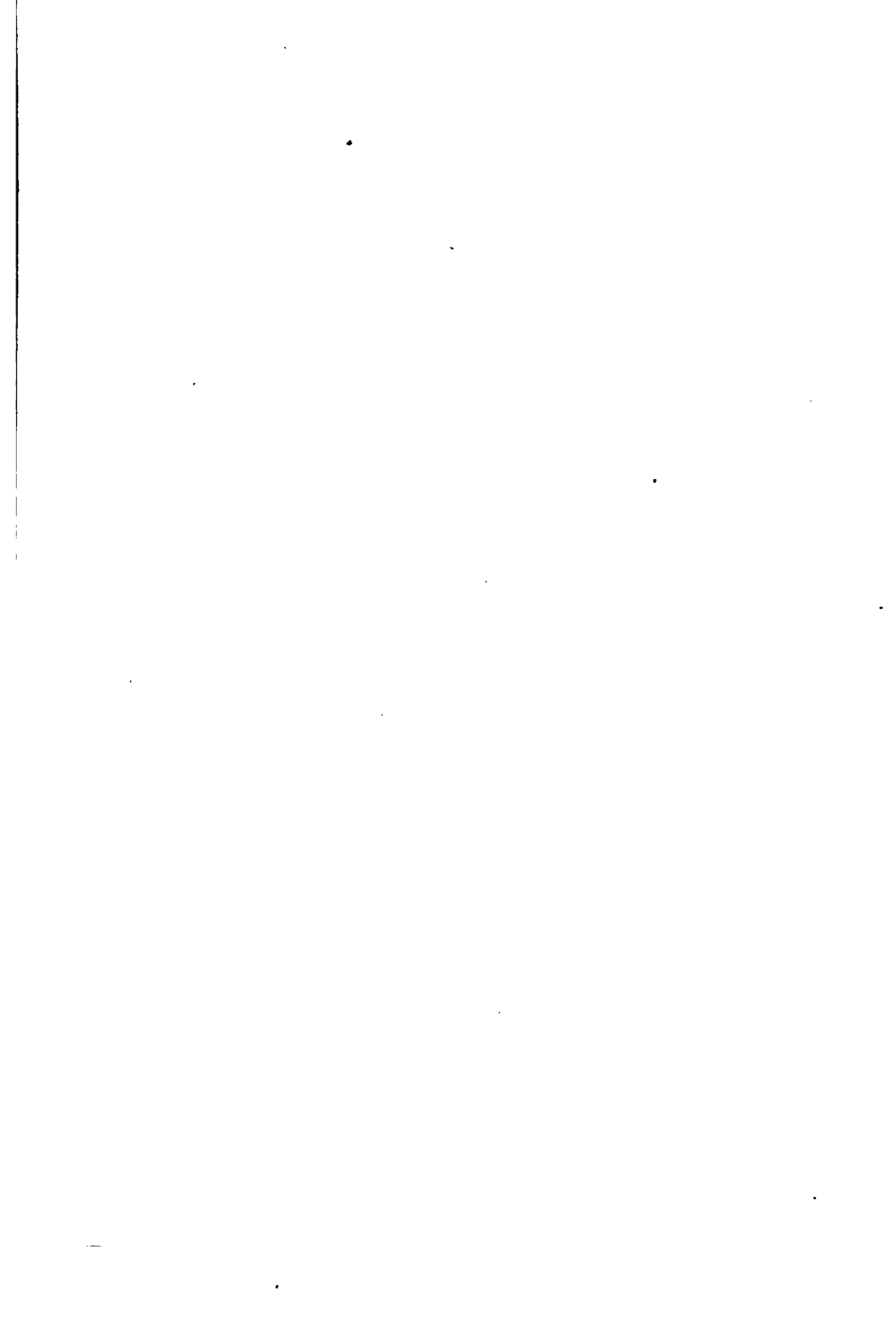
It is perhaps worthy of notice that in a total of 28 industries in which 10 per cent or more of the employees were women, the average wages of male employees were about \$1.72 in 1904 and \$1.74 in 1905. While in a total of 34 industries in which no women were employed, or in which female employees constituted less than 10 per cent of the total number, the average wages of men were about \$1.81 in 1904 and about \$1.86 in 1905. These facts would seem to support the view quite generally held, that the entrance of woman into the industrial field as a competitor of man not only lowers the average wages paid in the industry in a degree proportional to the amount by which her wages are less than man's, but also causes a decrease in the actual wages paid to the male employee.

The question is always one of considerable interest, whether the increase in daily wages is proportional to the increased cost of the necessities of life. The national Bureau of Labor, in bulletin No. 65, attempts to answer the question in so far as it concerns the cost of the various articles of food. The bulletin does not report for each state separately, but for each of six geographical divisions of the whole country. For the North Central States as a whole, it was found that the average food cost per workingman's family for 1904 was \$339.79, and for 1905, \$342.82. There was therefore an increase of slightly less than 9-10 of 1 per cent in the latter year. If this average can be assumed to hold good for Wisconsin, the increase in the average daily wages—about 2 per cent—was evidently more than sufficient to cover the increased cost of food. But the cost of food was found in 1901 to average only about 43 per cent of the total expenditures of a working man's family. Inasmuch therefore as no facts are ascertainable regarding the cost of the other necessities, and as the percentage for 1901 need not hold good for other years, the general question cannot be considered as definitely answered in the affirmative. Apparently, however, the increase in the average daily wages in 1905 was sufficient to cover the increased cost of the necessities of life in that year.

The average yearly income of a workingman's family in the North Central States in 1901, according to the bulletin already mentioned, was \$842.60. The average yearly earnings of all employees in Wisconsin in 2382 establishments are found to

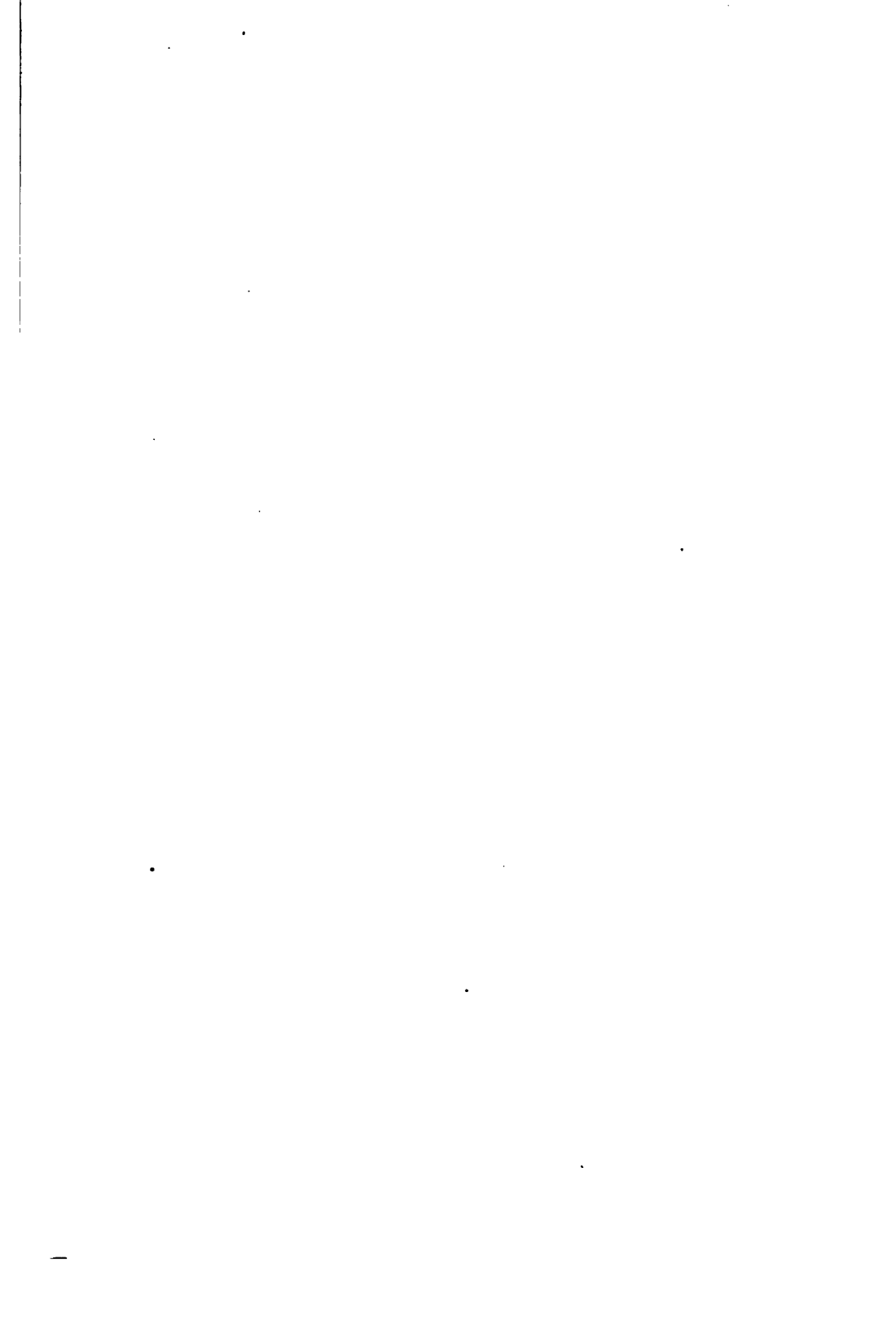
have been \$467.58 in 1905. The apparent discrepancy is due to the fact that the latter amount represents the average yearly earnings of individuals—men, women, and children. The former amount is in many cases the sum of the yearly earnings of several members of a family. Inasmuch therefore as no data are presentable relating to the average number of wage-earners in a workingman's family in this state, a comparison between the average income of a family in Wisconsin and of those in other states is not possible.

Summary.—Inasmuch as the tables presented in this report are based upon returns from less than half of the total number of manufacturing establishments in the state, the conclusions based upon them do not necessarily hold good for all establishments. In the case of all but a few industries, however, it was the most important establishments from which reports were received. For this reason it is believed that the facts ascertained in relation to the establishments which reported in 1904 and 1905 represent with a fair degree of accuracy the general industrial conditions existing in the state. It appears then that during the years 1904 and 1905 the manufacturing industries of Wisconsin experienced, with but few exceptions, a very satisfactory growth. Each year was marked by an unusual degree of activity. The average number of days of operation was large. The number of persons employed increased with considerable regularity. There was an increase in the capital invested, in the materials used, the product manufactured, and the average wages paid. Relatively fewer women were employed. In brief, the period may be said to have been one of industrial progress, in which there was a constantly increasing utilization of the abundant opportunities offered by the state to manufacturing industries.



PART VII.

**FACTORY AND BAKERY INSPECTION,
FREE EMPLOYMENT OFFICES
AND APPENDIX.**



FACTORY INSPECTION.

One of the most important duties imposed upon the Bureau is the inspection of all factories, work-shops, mercantile establishments, etc., in the state, in which men, women, or children are employed; and of all hotels, lodging-houses, theatres, and other places of public resort. The inspection of the former class of establishments has for its chief purpose the enforcement of the laws which make provision for the health and safety of the persons therein employed. In the case of public buildings, inspection is made mainly to secure the safety of the public generally, by insuring the existence of adequate means of egress in the event of fire. The inspection of bakeries seeks primarily to protect the public against deleterious food products, by enforcing rigorously sanitary conditions in all that is concerned with the manufacture of bread and similar foods.

A period of two years, ending October 31, 1906, is covered by this report. The chief facts of interest ascertained by the inspectors in the course of their work, together with the steps taken to remedy any conditions demanding action, are summarized in the following tables. The first set of tables pertains to the factories and workshops inspected, exclusive of cigar factories, bakeries, and public buildings. In the first table the firms are presented by cities and villages, with the number of buildings occupied by each, classified as to height; the number of employees, classified as to sex; the number of children under sixteen years of age employed; and the number of steam boilers and the total horse power, where steam power is used. In the second table, which is largely a summary of the first, the totals of the above items are given for each city or village, and, in addition, the total number of establishments in each and the number using other than steam power. Aside from the individual facts of interest these two tables possess considerable

value as affording a reasonably complete directory of the manufacturing establishments of the state, and also as indicating in some degree the relative importance of the various cities as manufacturing centers.

It will be observed that 350 places were visited by the inspectors and a total of 4,237 establishments inspected. It should be noted, however, that these figures do not represent the entire activity of the agents of the Bureau in reference to the manufacturing establishments of the state, inasmuch as two or more inspections were made in the case of nearly every establishment. It is the policy of the Bureau to follow an inspection by a second inspection within a short time, in order to ascertain whether all orders made have been complied with, and if not, to take such steps, by prosecution if necessary, as will result in a full compliance with the law. It has been found advisable also to inspect each establishment at least as often as every year.

The remainder of the first set of tables deal with various facts pertaining to the establishments inspected. The majority are self-explanatory, and comment will therefore be made only when it is desired to call attention to facts of special interest.

TABLE I—ESTABLISHMENTS INSPECTED.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
ABBOTSFORD, CLARK CO.								
Abbotsford Creamery Co.....	1		2		2		1	15
Lamb & Brown, Saw mill	1		10		10		1	75
Wisconsin Central Ry., Car shops	7		48	3	51		4	180
Total	9		60	3	63		6	270
ALBANY, GREEN CO.								
Albany Electric Light & Milling Co.		1	2		2			
Albany Hardware Specialty Mfg. Co., Door latches	1		5		5			
Albany Vindicator, The, Publishing	1		1	1	2			
Albany Tannery	1		1		1			
Black Hawk Mills, Linen toweling.	2		27	29	56		1	80
Oliver, W. J., Iron repairs	1		3		3			
Total	6	1	30	30	60		1	50
ALGOMA, KEWAUNEE CO.								
Ahnapee Veneer Seating Co.....	9	2	115		115	1	1	200
Algoma Iron Works, Foundry and machine shops	1		1		1			
Algoma Packing Co., Pea canning ..	3		210	40	250	26	2	150
Algoma Record, Publishing	1		3		3			
Algoma Steam Laundry	2		2	4	6		1	40
Algoma Water & Light Plant	2		3		3		3	160
Grimm, Henry, Sash, doors and blinds	5		13		13		1	60
Kelsey, G. H. Jr., Fly nets	3		13	12	25			
Plumbers' Wood Work Co.	3		17		17		1	100
Wodsedalek, Jos. & Co. Foundry and machine shop	4		5		5		1	30
Total	33	2	382	56	438	27	9	740
ALMA, BUFFALO CO.								
Alma Brewing Co.	4		2		2		1	25
Buffalo County Journal, Publishing	1		3		3			
Rupp, M., Soda water	1		2		2			
Total	6		7		7		1	25
AMERY, POLK COUNTY.								
Amery Lumber Co., Saw and planing mill	2		20		20		2	125
City Water Works	1		2		2			
Electric Light Plant	1		1		1			
McMatson, Brickyard	1		6		6		1	40
Northern Supply Co., Grist mill....		1	10		10			
Porter, J. F., Tannery	1		2		2		1	10
Soo R. R. Co., Elevator		1	2		2			
Wisconsin Dairy Co., Creamery	1		2		2		1	30
Total	7	2	55		55		5	205

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
AMHERST, PORTAGE CO.								
Advocate, Publishing	1		1	1	2			
Amherst Jersey Creamery Co.	1		2		2		1	30
Dwinell & Scheidel, Electric light ..	1		1		1			
Jackson Milling Co., Grist mill	1		4		4			
Rounds, A. L., Planing mill	1		2		2		1	12
Total	5		10	1	11		2	32
ANNITA, BAYFIELD CO.								
Barnes, Geo. S., Saw mill	1		40		40		2	70
Hermann & Johnson, Saw mill	1		40		40		1	75
Total	2		80		80		3	145
ANTIGO, LANGLADE CO.								
Antigo Brewing Co.	4	1	10	1	11		1	60
Antigo Building Supply Co., Lumber and wood work	6		21		21		1	75
Antigo Electric Light Co.	2		8		8		3	200
Antigo Herald, Publishers	1		2	1	3			
Antigo Journal, Publishers	1		8	1	9	2		
Antigo Manufacturing Co., Cooperage stock	1		28		28		1	100
Antigo Republican, Publishers	1		5		5			
Antigo Water Co., Water works	1		2		2		2	120
Citizens' Brewing Co.	3	1	11	1	12		1	100
City Stone Crusher	1		11		11		1	25
Crocker Chair Co.	5	1	76		76	4	5	360
Frost Veneer Seating Co.	4	1	45	6	51	10	2	120
Grabowsky, Ed., Brick yard			5		5	2		
Kellogg, T. D. Mfg. Co., Planing mill	3		24		24		1	80
Kingsbury & Henshaw, Flour and saw mill	5	2	50	1	51		4	250
Meyer, Herman, Brick yard			5		5			
Pioneer Iron Works, Machine shops	1		5	1	6			
Weekly News Item, The, Publishers	1		4		4			
Wirtz, A. L. Co., Elevator		1	4		4			
Wisconsin Bark & Lumber Co.	6		54		54		2	220
Total	46	7	320	12	332	12	26	1,670
APPLERIVER, POLK CO.								
Appleriver Power Co., Power plant	1		1		1			
Total	1		1		1			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
APPLETON, OUTAGAMIE CO.								
Appleton Chair Co.....	2	.....	56	4	60	12	2	100
Appleton Evening Crescent, Publishing.....	1	.....	14	1	15	1	.....	.....
Appleton Hay Tool Co., Hay tools and car movers.....	1	.....	3	.....	3	.....	.....	.....
Appleton Knitting Co.	2	.....	5	40	45	.....	.....	.....
Appleton Machine Co.	3	.....	54	.....	54	.....	.....	.....
Appleton Malting & Brewing Co....	2	1	16	.....	16	.....	2	125
Appleton Paper Box Factory.....	1	.....	1	7	8	4	1	9
Appleton Paper & Pulp Co., Pulp.....	1	.....	13	.....	13	.....	.....	.....
Appleton Post, Publishing.....	.....	1	12	.....	12	.....	.....	.....
Appleton Rug Works.....	1	.....	8	.....	8	2	.....	.....
Appleton Screen Plate Co., Brass castings.....	1	.....	21	1	22	.....	1	35
Appleton Shirt & Pants Co., Jobbers of shirts and pants.....	1	.....	5	1	6	.....	.....	.....
Appleton Steel Plow Works.....	1	.....	1	.....	1	.....	.....	.....
Appleton Toy & Furniture Co.....	2	.....	35	15	50	12	1	30
Appleton Volksfreund, Publishing.....	1	.....	10	.....	10	1	.....	.....
Appleton Water Works.....	1	.....	4	.....	4	.....	2	300
Appleton Wire Works.....	2	.....	51	9	60	.....	2	60
Appleton Woolen Mills, Felt and yarn.....	1	1	27	33	60	2	2	225
Atlas Paper Co. ....	.....	1	60	9	75	.....	.....	.....
Crescent Knitting Co., The.....	1	.....	7	50	57	.....	.....	.....
Double Power Windmill Co.....	3	.....	4	.....	4	.....	1	8
Eagle Mfg. Co., Gasoline engines and farm implements.....	2	.....	22	.....	22	.....	.....	.....
Electric Laundry.....	1	.....	2	2	4	.....	1	8
Fairbanks & Timm, Machine shop.....	2	.....	12	.....	12	.....	1	20
Fox River Journal, Publishing.....	1	.....	3	1	4	.....	.....	.....
Fox River Paper Co.	1	3	198	169	367	5	9	1,200
Fox River Screen Plate Co., Screen plates.....	1	.....	3	.....	3	.....	.....	.....
Fox River Valley Gas & Electric Co.	2	.....	9	.....	9	.....	1	60
Fox River Valley Marble, Granite and cut stone works.....	1	.....	15	.....	15	.....	.....	.....
Heintzkill, J., Soap.....	1	.....	1	.....	1	.....	1	6
Interlake Paper & Pulp Co., Paper.....	5	1	209	1	210	.....	8	1,125
Jackson & Co., Printers.....	1	.....	4	.....	4	.....	.....	.....
Kimberly-Clark Co., Paper.....	1	2	76	11	87	.....	2	300
Kurz & Root, Dynamos and motors.....	1	.....	9	.....	9	.....	.....	.....
Lake Superior Knitting Works.....	1	.....	39	6	45	.....	.....	.....
Langstadt & Meyer, Electrical engineers.....	1	.....	11	1	12	.....	.....	.....
Lindley Steam Laundry.....	1	.....	2	3	5	1	.....	.....
Marston, J. H., Hubs and spokes.....	2	.....	12	.....	12	.....	.....	.....
Mausser, Renner & Graef, Planing mill.....	3	.....	25	.....	25	5	1	100
National Laundry Co.....	1	.....	2	7	9	.....	1	20
North Side River Woolen Mills, Wool carding.....	1	.....	3	1	4	.....	1	25
Patton Paper Co., Ltd., Paper.....	4	1	50	34	83	.....	6	900
Post Bindery Co. ....	.....	1	4	4	8	4	.....	.....
Potts, Wood & Co., Creamery and milk depot.....	1	.....	4	1	5	.....	1	20
Riverside Paper & Paper Co., Paper.....	3	.....	48	4	52	.....	2	300
Schneider, Adolph, Clubhouse furniture.....	1	.....	9	1	10	.....	.....	.....
Standard Mfg., Co., Bank and bar fixtures.....	4	.....	33	.....	33	.....	1	100
Teuliah Paper Co.....	2	1	92	36	128	2	6	380
Tuttle Press Co., The, Printing.....	1	.....	30	8	38	.....	.....	.....
Valley Iron Works, Paper making machinery.....	2	.....	60	.....	60	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
APPLETON—Continued.								
Walter, Geo., Brewing Co.	1	2	30	.....	20	.....	2	170
Webster, W. M., Planing mill	1	.....	5	.....	5	.....	.....	.....
Willy & Co., Flour	2	1	15	1	16	.....	2	235
Wilson Co., The, Meat blocks	1	.....	4	.....	4	.....	.....	.....
Windels, Chas., Bottling	1	.....	1	.....	1	.....	.....	.....
Wisconsin Malt & Grain Co.	2	2	33	.....	33	.....	2	300
Wisconsin Tissue Paper Co.	1	.....	33	7	40	.....	2	150
Wisconsin Traction, Light, Heat & Power Co.	1	.....	10	.....	10	.....	4	1,240
Wisconsin Wire Works	2	.....	18	3	21	.....	1	43
Wolf & Hegner, Marble cutters ...	1	.....	14	.....	14	.....	.....	.....
Total	30	18	1,552	471	2,023	51	69	3,584
ARBOR VITAE, VILAS CO.								
Ross Lumber Co.	11	.....	300	1	310	.....	6	600
Yawkey—Bissell Lumber Co.	14	.....	410	.....	410	.....	3	400
Total	25	.....	710	1	720	.....	14	1,000
ARCADIA, TREMPLEAU CO.								
Arcadia Anzeiger, Printing .....	.....	1	2	1	3	.....	.....	.....
Arcadia Brewery	2	.....	5	.....	5	.....	1	40
Arcadia Electric Light Plant	1	.....	1	.....	1	.....	2	100
Arcadia Milling Co., Flour	2	1	3	.....	3	.....	2	140
Arcadian, The, Printing	1	.....	2	.....	2	.....	.....	.....
Cargill, W. W. Co., Elevator .....	.....	1	1	.....	1	.....	.....	.....
Leader, The, Printing	1	.....	1	1	2	.....	.....	.....
Massuere, W. T. Co., Elevator	1	.....	3	.....	3	.....	.....	.....
Putnam & Barber, Sash, doors, etc.	2	.....	3	.....	3	.....	1	30
Total	10	3	13	3	30	.....	6	270
ASHLAND, ASHLAND CO.								
Ashland Brewing Co.	5	.....	19	1	20	.....	2	135
Ashland Daily News	1	.....	3	2	10	.....	.....	.....
Ashland Iron & Steel Co., Smelting and chemical works	21	.....	200	.....	200	.....	5	900
Ashland Lighting & Street R. R. Co.	3	.....	27	.....	27	.....	4	400
Ashland Mfg. Co., Woodwork	1	.....	12	.....	12	.....	.....	.....
Ashland Steam Dye Works	2	.....	2	2	4	.....	1	15
Ashland Steam Laundry	1	.....	4	11	15	.....	1	30
Ashland Water Works	2	.....	6	.....	6	.....	3	500
Baker, F. H., Candy factory	1	.....	1	3	4	.....	.....	.....
Bowling Murray Co., Printing .....	.....	1	5	1	6	.....	.....	.....
Bretting Mfg. Co., Iron works	3	.....	50	1	50	.....	3	150
Chicago & Northwestern R. R., Ore docks	2	.....	145	.....	145	.....	.....	.....
Chicago & Northwestern R. R., Shops	5	.....	245	.....	245	.....	1	75
Clarkson Coal & Dock Co.	1	.....	30	.....	30	.....	2	30
Dhooze's Creamery Co.	1	.....	2	.....	2	.....	1	20
East End Mill, Saw mill	3	.....	115	.....	115	.....	8	500
Hines Lumber Co., Saw mill	4	.....	200	.....	200	.....	5	300
Kindle, Julius, Woodworking	3	.....	8	.....	8	.....	1	60

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Rollers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
ASHLAND—Continued.								
Lake Superior Lumber & Box Co., Boxes	3		125		125		4	380
Menasha Paper Co.	4	1	45		45		4	600
Minneapolis, St. Paul & Ashland R. R., Shops	2		11		11		1	30
Reiss Coal Co., (East side)	3		40		40		2	150
Reiss Coal Co., (West side)	1		20		20		2	30
Reinhart, G. B., Machine shops	1		2		2			
Schroeder Lumber Co., Saw mill	7		149	1	150		4	300
Scott-Taylor Co., Sash, doors, etc.	5		40		40		2	140
Wisconsin Central Ry., Ore docks			40		40			
Wisconsin Central Ry., Shops	1		30		30		1	120
Total	91	2	1,591	22	1,613		56	5,045
ATHENS, MARATHON CO.								
Athens Mfg. Co., Lumber	7		40		40		2	130
Braun Bros., Lumber	3		25		25		3	200
Ceves Roller Mills Co.	1	2	4		4		1	100
Degner Stave & Heading Factory	4		25		25	3	2	160
Greunwald, Gustav, Wagons	1		3		3			
Paul, Chas., Wagons	1		3		3		1	8
Reitbroeck Land & Lumber Co.	10		65		65		5	375
Total	27	2	165		165	3	14	973
ATLANTA, RUSK CO.								
Arplin Lumber Co.	6		33		33		3	450
Total	6		33		33		3	450
BALDWIN, ST. CROIX CO.								
Baldwin Creamery Co.	1		3		3		1	25
Total	1		3		3		1	25
BANGOR, LA CROSSE CO.								
Bangor Independent, The, Publishing	1		1	1	2			
Daisy Mill, Grist mill	2		2		2		1	40
Eckhart, Fred, Elevator	1	1	1		1			
Hussa Brewing Co.	6	1	17		17		2	300
Roberts, L. J., Elevator	2		3		3		1	15
Total	12	2	23	1	24		4	355
BARABOO, SAUK CO								
Altpeter, Oscar, Soda water	1		3		3			
Baraboo City Water Works	1		2		2		1	90
Baraboo Electric Light & Gas Co.	3		6		6		2	300
Baraboo News, The, Publishing	1		2	4	6			
Baraboo Republican, The	1		3	4	7			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total, b. p.
BARABOO—Continued.								
Baraboo Steam Laundry	1	.....	3	6	9	.....	1	15
Chicago, & Northwestern H. K., Shops	13	.....	121	.....	121	.....	2	100
Eminger, Ferdinand, Brewery	1	1	7	.....	7	.....	1	120
Farnum, Chas.	1	.....	2	.....	2	.....	.....	.....
Gem City Bottling Works, Soda water	1	.....	2	.....	2	.....	.....	.....
Gem Laundry	1	.....	5	4	9	.....	1	15
Gollmar, George J., Machinist	1	.....	2	.....	2	.....	.....	.....
Graf, H. H., Contractor	2	.....	3	.....	3	.....	1	16
Island Woolen Mills	9	1	49	43	92	3	.....	.....
Karteck, J. F., Printing	1	.....	1	.....	1	.....	.....	.....
McArthur, G. B. & Son, Towels and rugs	3	.....	16	21	37	1	1	15
Manchester Mills, Grist mill	1	.....	1	.....	1	.....	.....	.....
Moeller, H. & Son, Wagons and carriages	2	.....	8	.....	8	.....	.....	.....
Roick, Henry, Grist mill	1	.....	2	.....	2	.....	.....	.....
Ruhland Brewing Co.	2	.....	6	.....	6	.....	1	20
Sauk County Democrat	1	.....	2	2	4	.....	.....	.....
Schacht & Kramer, Contractors	1	.....	4	.....	4	.....	.....	.....
Total	51	2	260	84	344	4	11	601
BARKSDALE, BAYFIELD CO.								
Eastern Dynamite Co.	51	.....	200	.....	200	.....	3	260
Total	51	.....	200	.....	200	.....	3	260
BARRON, BARRON CO.								
Barron Creamery Co.	1	.....	3	.....	3	.....	1	20
Barron Roller Mills .....	.....	1	6	.....	6	.....	.....	.....
Barron Stave & Heading Co.	1	.....	40	.....	40	2	1	156
Barron Woodwork Co.	1	.....	8	.....	8	.....	1	35
Barron Woolen Mills	3	.....	16	.....	16	.....	.....	.....
Holtz, C. & Son, Woodwork	1	.....	12	.....	12	.....	1	40
Smith, Edward E., Woodwork	2	.....	20	.....	20	.....	1	45
Total	9	1	105	.....	105	2	5	260
BARRONETTE, BARRON CO.								
Barronette Creamery Co.	1	.....	2	.....	2	.....	1	30
Laurson, H. M., Brick yard	1	.....	8	.....	8	.....	1	30
Laurson, Peter, Brick yard	1	.....	6	.....	6	.....	1	25
Total	3	.....	16	.....	16	.....	3	75
BAYFIELD, BAYFIELD CO.								
Bayfield Press, Printing	1	.....	3	1	4	.....	.....	.....
Bell, W. H., Contractor	1	.....	2	.....	2	.....	.....	.....
Booth, A. & Co., Fish packers	9	.....	125	.....	125	.....	1	46
Boutin, L. S., Fish packers	5	.....	100	.....	100	.....	1	16
City Water Works	1	.....	3	.....	3	.....	2	325
Fike Lumber Co.	4	.....	100	.....	100	.....	6	740
Terry, Alfred, Box Factory	1	.....	2	.....	2	.....	1	16
Total	22	.....	325	1	326	.....	11	1,100

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
BEAVER DAM, DODGE CO.								
American Steam Laundry	1	.....	1	3	4	.....	1	12
Beaver Dam Argus, Printing	1	.....	6	.....	6	.....	.....	.....
Beaver Dam Brewery	2	.....	5	.....	5	.....	.....	.....
Beaver Dam Cotton Mills, Sheeting	1	1	50	100	150	5	3	150
Beaver Dam Gas Co.	1	.....	1	.....	1	.....	.....	.....
Beaver Dam Illuminating Co., Electricity	1	.....	5	.....	5	.....	2	300
Beaver Dam Malleable Iron Co.	6	.....	350	4	354	5	2	300
Beaver Dam Malleable Range Co.	2	.....	210	.....	210	3	2	250
Beaver Dam Mfg. Co., Seeders and drills	2	.....	20	.....	20	.....	.....	.....
Beaver Dam Overall Co.	1	.....	2	3	6	.....	.....	.....
Beaver Dam Woolen Mills	2	1	60	100	160	2	4	285
Binzell Brewing Co.	3	.....	7	.....	7	.....	1	10
Bon Ton Bottling Works	1	.....	6	.....	6	.....	.....	.....
Citizens' Printing Co. ....	.....	1	6	1	7	.....	.....	.....
Empire Mills, Flour	1	1	3	.....	3	.....	1	100
Harder, H. J., Gas engines	1	.....	2	.....	2	.....	.....	.....
Jigler Brewery	1	1	4	.....	4	.....	1	30
Miller, J. W., Monuments	1	.....	5	.....	5	.....	1	30
Quincy, A. F. & Son, Jobbers....	1	.....	10	.....	10	.....	.....	.....
Rowell, J. S. Mfg. Co., Farm implements	5	5	100	1	101	.....	1	125
Woolen Mfg. Co., Woolen goods ...	8	1	50	50	100	.....	2	100
Total	42	11	903	265	1,168	15	21	1,642
BELDENVILLE, PIERCE CO.								
Crescent Creamery Co.	1	.....	1	.....	1	.....	1	12
Junkman, J. O., Elevator	1	1	3	.....	3	.....	.....	.....
Larson Brothers, Saw mill	1	.....	10	.....	10	.....	1	50
Total	3	1	14	.....	14	.....	2	63
BELLWOOD, DOUGLAS CO.								
Bell Lumber Co.	1	.....	40	.....	40	.....	2	30
Total	1	.....	40	.....	40	.....	2	30
BELOIT, ROCK CO.								
Barrett Mfg. Co., Tar paper	6	.....	38	2	40	.....	6	600
Beloit Carriage Works, Wagons and carriages	2	.....	6	.....	6	.....	.....	.....
Beloit Creamery	3	.....	2	.....	2	.....	1	14
Beloit Daily News	1	.....	14	.....	14	.....	.....	.....
Beloit Electric Co., Light and power	2	.....	4	.....	4	.....	2	450
Beloit Foundry Co.	1	.....	15	.....	15	.....	.....	.....
Beloit Free Press	1	.....	9	3	12	.....	.....	.....
Beloit Gas, Light & Coal Co.	3	.....	7	.....	7	.....	1	40
Beloit Glove & Mitten Co. ....	.....	1	2	8	10	.....	.....	.....
Beloit Iron Works, Paper mill machinery	7	.....	150	1	151	.....	2	30
Beloit Nickel Plating Works	1	.....	3	.....	3	.....	.....	.....
Beloit Steam Laundry	1	.....	3	14	17	.....	1	8
Beloit Water, Electric Light & Gas Co.	4	.....	14	.....	14	.....	1	9
Bersly, Chas. H., Machine shop....	4	.....	75	.....	75	.....	.....	.....
Berlin Machine Co.	14	2	620	.....	620	.....	2	450
Clement Bros. Machine shop	1	.....	2	.....	2	.....	.....	.....
Cunningham Bros., Sash and doors	4	.....	29	1	30	.....	.....	.....
Doud Knife Works, Machine knives	4	.....	25	.....	25	.....	1	60

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
BRELOIT—Continued.								
Eureka Laundry	1	.....	3	12	15	.....	1	50
Fairbanks—Morse, Mfg. Co., Wind-mills, gas engines and pumps	22	.....	1,919	6	1,925	.....	7	700
Foster, John, Co., Shoes	4	.....	71	57	128	3	2	90
Gardener Machine Co., Grinding machines	1	.....	7	.....	7	.....	.....	.....
Gaston, N. B. & Sons Co., Scales	1	1	52	.....	52	.....	.....	.....
Johnson, O. J., Wagons	1	.....	2	.....	2	.....	.....	.....
Mattison Machine Works	1	.....	17	.....	17	.....	.....	.....
Mead, A., Elevator	3	.....	1	.....	1	.....	1	30
Miller Co., Feed mill	2	.....	1	.....	1	.....	.....	.....
Northern Grain Co., Feed mill	1	.....	3	.....	3	.....	.....	.....
Parisian Steam Laundry	1	.....	4	4	8	.....	1	24
Pierce, M. C., Specialty Co., Specialties	1	.....	1	.....	1	.....	.....	.....
Rockford, Beloit & Janesville Ry. Co.	4	.....	50	.....	50	.....	3	1,350
Rosenblatt, H. & Son, Clothing	4	.....	30	95	125	.....	.....	.....
Schlink, F., Ale and porter brewery	1	.....	2	.....	2	.....	1	15
Slater & Marsden, Machine shop	1	.....	3	.....	3	.....	.....	.....
Star Mills, Feed .....	.....	1	1	.....	1	.....	.....	.....
Stockwell, F. C., Printing	1	.....	2	.....	2	.....	.....	.....
Thompson, J. & Sons, Mfg. Co., Plows	6	1	112	.....	112	.....	3	200
Warner, C. O., Sash and doors	1	.....	3	.....	3	.....	.....	.....
Warner Instrument Co., Autometers	1	.....	74	13	87	2	.....	.....
Whitney, W. C., Gas engines	1	.....	1	.....	1	.....	.....	.....
Total	117	6	3,377	216	3,593	5	38	4,130
BENTON, LAFAYETTE CO.								
Century Mining Co.	1	.....	5	.....	5	.....	1	70
Chicago, Benton Mining Co.	1	.....	13	.....	13	.....	1	80
Corr Mining Co.	1	.....	5	.....	5	.....	1	70
Dawson Mining Co.	1	.....	16	.....	16	.....	2	180
Empress Mining Co.	1	.....	20	.....	20	.....	1	80
Etna Mining Co.	1	.....	18	.....	18	.....	1	125
Jug Handle Mine	1	.....	20	.....	20	.....	3	180
Monarch Mining Co.	1	.....	20	.....	20	.....	2	180
Municipal Light & Water Plant	2	.....	2	.....	2	.....	1	40
Oille Bell Mining Co.	1	.....	6	.....	6	.....	1	80
Pittsburg, Benton Mining Co.	1	.....	23	.....	23	.....	1	80
Rowley Mining Co.	2	.....	12	.....	12	.....	1	80
Total	14	.....	150	.....	150	.....	15	1,245
BERLIN, GREEN LAKE CO.								
Berlin Brewing Co.	3	2	7	.....	7	.....	1	40
Berlin Canning & Pickling Co.	1	.....	4	.....	4	.....	.....	.....
Berlin Bottling Works	1	.....	3	.....	3	.....	.....	.....
Berlin Courant, The, Printing	1	.....	3	3	6	1	.....	.....
Berlin Journal, The, Printing	1	.....	3	4	7	.....	.....	.....
Berlin Lighting, Heating & Power Co.	2	.....	4	.....	4	.....	.....	.....
Berlin Water Co.	2	.....	2	.....	2	.....	4	430
Berlin Whip Co., Gloves and mittens	1	.....	5	60	65	.....	2	140
Darlin, A. B., Whips	1	.....	2	.....	2	.....	.....	.....
Hicks, Geo. C., Printing	1	.....	3	1	4	.....	.....	.....
Johnson—Fortnum Machine Works, Repair shops	2	.....	5	1	6	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
BERLIN—Continued.								
Luther, Henry Co., Brooms and washboards	2		20		20		1	25
Luther, J. P., Glove Co., Gloves and Masonic aprons	1		15	20	35			
Metzig Bros., Wagons	1		3		3			
Model Laundry	1		1	5	6		1	18
Morris, C. S., Feed mill	1		10		10		1	65
Murphy, J. E., Butter tubs	1		12		12		1	20
Peck Hardware Co., Mail boxes ..	1		17	1	18			
Russel, Frank, Glove Co.	1		17	135	152			
Russel, W. C., Leather goods, gloves and mittens	1		15		15			
Sears, Hitchcock Co., Hides and leather	1		15		15			
Sillman, Wright & Co., Flour and feed	2	2	15		15			
Stedman, H. E., Gloves	1		2	18	15			
Talcot Glove Co., Gloves and mittens	1		2	30	32			
Trusdell Fur Coat Co.	2		28	7	35	1	1	50
Wisconsin Granite Co.	7	1	150		150		2	180
Wright Co., Boots and shoes	1		54		54			
Total	41	5	307	280	677	3	14	968
BIBON, BAYFIELD CO.								
Chicago Lumber & Coal Co., Saw and planing mills	4		120		120		2	250
Total	4		120		120		2	250
BIRCHWOOD, WASHBURN CO.								
Ahnapee Veneer & Scenting Co.	7		60		60	4	2	180
Buckland, W. L., Saw mill	1		10		10		1	75
Total	8		70		70	4	3	265
BIRNAMWOOD, SHAWANO CO.								
Andrew, B. B. & Son., Excelsior, fuel, light and water	4		10		10			
Birnamwood News	1		2		2			
McEachron, H. E. Co., Warehouse ..	1		1		1			
Van Doran & Andrews, Saw mill....	3		30		30		2	140
Total	9		43		43		2	140
BLACK RIVER FALLS, JACKSON CO.								
Badger State Banner, Publishing ..	1		5		5			
City Electric Light Plant	1		1		1			
Galster, Joseph, sleds and wagons ..	1		4		4			
Jackson County Journal	1		3	1	4			
Thompson's Iron Works, Foundry and machine shop	1		5		5			
McGillivray, J. J., Sash, doors and blinds	1		16		16			
Total	6		34	1	35			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
BLAIR, TREMPLEAU CO.								
Blair Electric Light Plant.....	1		1		1		1	35
Blair Press, Publishing.....	1		2		2			
Cargill, W. W., Elevator.....		1	1		1			
Hyslop, W. G., Flour.....		1	4		4			
Matson & Gutknecht, Wagons and sleighs.....	1		2		2		1	10
Preston Creamery Co.	2		3		3		1	19
Total	5	2	13		13		2	64
BLOOMER, CHIPPEWA CO.								
Advance Printing.....	1		2	1	3			
Advocate Printing.....	1		1	1	2			
Bloomer Brewery Co.	2		6		6		1	39
Bloomer Creamery Co.	2		2		2		1	20
Bloomer Machine Works, Iron works.....	2		4		4			
Bloomer Produce Co.	1	1	5		5			
Bloomer Roller Mills.....	2		4		4			
New Richmond Roller Mills Co., Elevator.....	1	1	3		3			
Wilson-Weber Lumber Co.	2		4		4		2	50
Total	14	2	32	2	34		4	120
BOSCOBEL, GRANT CO.								
Bekkedal, M. H., Leaf tobacco.....	1		45	9	53			
Bock, F. E., Bottling works.....	1		1		1		1	10
Boscobel Brewery.....		2	4		4		1	20
Boscobel Creamery.....	1		1		1		1	15
Boscobel Electric Light Plant.....	4		2		2		2	200
Boscobel Roller Mills.....	5	1	2		2		1	75
Botlen, L. P., Wagons and carriages.....	1		2		2			
Dial Enterprise, The, Printing.....	2		3		3			
Eastman Lumber Co., Boxes.....	2		2		2			
Ruka Bros., Foundry and machine shop.....	4		12		12			
Rustic Novelty Works, The, Rustic chairs.....	1		3		3		1	4
Sentinel, The, Printing.....	1		3		3			
Total	28	3	80	9	88		7	324
BRANDON, FOND DU LAC CO.								
Brandon Creamery Association.....	1		1		1		1	15
Brandon Gasoline Works, Light.....	1		1		1			
Brandon Times, Printing.....	1		1	2	3			
Milwaukee Elevator Co., Elevator.....	1		1		1			
Sherwin, E. C. & Son, Bridge builders.....	1		2		2			
Wisconsin Malt & Grain Co., Elevator.....	1		1		1			
Total	6		7	2	9		1	15

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
BRILL, BARRON CO.								
Brill Creamery Co.	1	.....	1	.....	1	.....	1	80
Total	1	.....	1	.....	1	.....	1	80
BRILLION, CALUMET CO.								
Behuke Milling Co., Flour and electric light	1	2	6	.....	6	.....	1	100
Brillion Cheese Factory	1	.....	9	.....	9	.....	1	12
Brillion Iron Works	3	.....	13	.....	13	.....	1	85
Brillion Lumber Co., Planing mill.	2	.....	13	.....	13	.....	1	80
Brillion News, Printing	1	.....	1	1	2	.....	.....	.....
Brillion Wooden Ware Co., Cheese boxes .....	.....	2	40	.....	40	.....	1	80
Kuchle & Bruss, Elevator	1	.....	3	.....	3	.....	.....	.....
Union Lime Works	3	.....	65	.....	65	.....	1	60
Total	12	4	143	1	144	.....	6	367
BRISTOL, KENOSHA CO.								
Bristol Tile Works .....	.....	1	5	.....	.....	.....	1	40
Farmers' Bristol Creamery	1	.....	3	.....	3	.....	1	20
Total	1	1	5	.....	5	.....	2	60
BRODHEAD, GREEN CO.								
American Cigar Co., Leaf tobacco..	3	.....	20	40	60	.....	1	50
Bliss & Son, Grist mill .....	.....	1	4	.....	4	.....	.....	.....
Brodhead Electric Light Co.	1	.....	1	.....	1	.....	.....	.....
Brodhead Independent, The, Printing .....	.....	1	3	2	5	.....	.....	.....
Brodhead Register, The, Printing ..	1	.....	3	2	5	.....	.....	.....
Brodhead Water Co.	1	.....	1	.....	1	.....	.....	.....
Gombars Steam Laundry	1	.....	1	.....	1	.....	.....	.....
Holiday & Co., Machine shop	1	.....	2	.....	2	.....	.....	.....
Vehling, F. O., Creamery	1	.....	2	.....	2	.....	1	20
Total	9	2	37	44	81	.....	2	70
BROKAW, MARATHON CO.								
Wausau Paper Mills Co.	19	.....	265	10	275	.....	5	1,200
Total	19	.....	265	10	275	.....	5	1,200
BROOKLYN, GREEN CO.								
Brooklyn Cheese & Butter Association	1	.....	2	.....	2	.....	1	20
Capitol Chair Co., Patented chairs.	6	.....	10	.....	10	.....	1	80
Total	7	.....	12	.....	12	.....	2	100
BROWN'S SPUR, MARINETTE CO.								
England, H., Saw and shingle mill	1	.....	25	.....	25	.....	1	100
Total	1	.....	25	.....	25	.....	1	100

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
BRUCE, RUSK CO.								
Beldenville Lumber Co., Lumber and Veneer Mfg.	8	.....	75	.....	75	.....	3	140
Total	8	.....	75	.....	75	.....	3	140
BUNCOMBE, LAFAYETTE CO.								
Winnebago Mining Co.	2	.....	60	.....	60	.....	3	400
Total	2	.....	60	.....	60	.....	3	400
BUNDY, LINCOLN CO.								
Worden Lumber Co., Saw mill	6	.....	125	.....	125	.....	4	600
Total	6	.....	125	.....	125	.....	4	600
BURKHARDT, ST. CROIX Co.								
Burkhardt, C., Elevator and milling	2	2	10	.....	10	.....	.....	.....
Total	2	2	10	.....	10	.....	.....	.....
BURLINGTON, RACINE CO.								
Burlington Blanket Co.	6	1	87	91	168	.....	2	160
Burlington Brass Works, Plumbers' supplies	8	.....	35	.....	35	.....	1	40
Burlington Water Works	5	.....	1	.....	1	.....	2	100
Burlington Electric Light & Power Plant	3	.....	5	.....	5	.....	2	200
Burlington Free Press	1	.....	3	.....	3	.....	.....	.....
Burlington Steam Laundry	1	.....	1	3	4	.....	1	20
Fink & Uehn, Brewery	1	2	20	.....	20	.....	3	200
Klein, F. F., Bottling works	1	.....	2	1	3	.....	1	23
Lawton & Bushman, Harness repair	1	.....	8	.....	8	.....	.....	.....
McCanna & Frayser Co., Creamery	2	.....	21	4	25	.....	.....	.....
Multiscope & Film Co., Cameras	1	.....	3	.....	3	.....	.....	.....
Standard Democrat, The	1	.....	10	.....	10	.....	2	70
Voorhees & Flisk, Window frames, ladders, etc.	3	1	3	.....	3	.....	1	15
Wagner Bros., Machine shop	4	.....	58	7	65	.....	4	600
Wisconsin Condensed Milk Co.	1	.....	4	.....	4	.....	.....	.....
Zwiebler, A., Machine shop .....	.....	.....	.....	.....	.....	.....	.....	.....
Total	37	4	270	96	366	.....	19	1,430
BUTTERNUT, ASHLAND CO.								
Bauer Bros. & Knapp, Saw mill	2	.....	30	.....	30	.....	1	50
Butternut Eagle, Printing	1	.....	2	.....	2	.....	.....	.....
Butternut Stave Co., Stave mill	3	.....	20	.....	20	.....	1	150
Creamery Package Co., Veneer factory	6	.....	65	.....	65	3	1	20
Goellner Bros., Saw mill	1	.....	25	.....	25	.....	1	80
Nutting, D. K., Saw mill	1	.....	4	.....	4	.....	1	14
Total	14	.....	136	.....	136	3	5	405

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 15 yrs. of age.	No.	Total h. p.
CAMBRIA, COLUMBIA CO.								
Cambria Gas Light Co.....	1		1		1			
Cambria News, Printing.....	1			2	2			
Cambria Roller Mills.....	1		2		2		1	80
Friday, Fred, Creamery.....	1		2		2		1	20
Williams, D. R., Elevator.....	1		1		1			
Total	5		7	2	9		2	100
CAMBRIDGE, DANE CO.								
Benson, Louis, Creamery.....	1		3		3		1	20
Curtis, Wm., Feed.....	2		2		2		1	40
Daw's Mill, Feed.....	2		3		3		1	65
Vetterlein & Co., Leaf tobacco.....	2		55	20	75	1	1	10
Total	7		63	20	83	1	4	135
CAMERON, BARRON CO.								
Breitenbach, John, Creamery.....	1		1	1	2	1	1	15
Cameron Creamery.....	1		1	1	2		1	15
Cameron Review, Printing.....	1		2		2			
Onk Grove Handle Co.....	1		9		9		1	45
Total	4		13	2	15	1	3	75
CAMPBELLSPORT, FOND DU LAC CO.								
Campbellsport Glove & Mitten Works.....	1		1	3	4			
McCullough Bros., Elevator.....	1		2		2			
Newcastle Roller Mills.....	1		2		2		1	50
Total	3		5	3	8		1	50
CAROLINE, SHAWANO CO.								
Bressner, Theodore, Flour.....	1		3		3			
Thiele, Ernest, Saw mill.....	1		10		10		1	50
Total	2		13		13		1	50
CARROLLVILLE, MILWAUKEE CO.								
Lake Side Distilling Co.....	6	1	22		22		7	500
United States Glue Co.....	11	1	158	51	209	11	6	3,000
Total	17	2	180	51	231	11	13	3,500
CASHTON, MONROE CO.								
Cashton Independent, The.....	1		1	1	2			
Cashton Milling Co., Flour and electric light.....	3	1	4		4		1	75
Cashton Record, The.....	1		2		2			
Cashton Steam Laundry.....	1		1		1		1	13
Central Wisconsin Creamery Co.....	1		2		2		1	30
Enterprise Creamery Co.....	1		1		1		1	20
Hall, H. J., Interior finishing.....	3		7		7		1	30
Mitby, P. B., Elevator.....	1		1		1			
United Cigar Co., Leaf tobacco.....	1		55	25	80			
Total	13	1	74	26	100		5	137

TABLE 1. ESTABLISHMENTS INSPECTED—Continued.

Establishment, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CASSVILLE, GRANT CO.								
Cassville Brewery	3	1	5		5		1	39
Cassville Record, Printing	1		2	1	3			
City Water Works & Electric Light Plant	1		1		1		1	40
Kleinpell Bros., Planing mill	4		4		4		1	60
Kilndt-Geiger Canning Co.	4		60		60		3	305
Total	13	1	72	1	73		6	235
CAVOUR, FOREST CO.								
Bentzinger & Groomer, Lumber	1		16		16		1	65
Total	1		16		16		1	65
CEDARBURG, OZAUKEE CO.								
Cedarburg Brewery	6		6		6		1	25
Cedarburg Electric Light Co.	1		2		2		2	250
Cedarburg News	1		1	2	3			
Cedarburg Roller Mills	1	1	5		5			
Cedarburg Wire Nail Co.	4		12		12			
Cedarburg Woolen Mills	2	1	75	25	100		2	300
Columbia Flour Mill	3		3		3			
Excelsior Shoe & Slipper Co.	3		40	20	60		2	75
Hilgen Mfg. Co., Sash and doors	5		50		50		2	175
Liesenburg Grain Co.	1	1	2		2			
Milwaukee Falls Lime Co.	4		42		42		2	125
Rusk Bros., Flour	1	1	4		4			
Zann, Jacob, Grain, wood and coal		5	3		3		1	80
Total	38	10	245	47	292		12	1,030
CEDARGROVE, SHEBOYGAN CO.								
Northern Grain Co., Elevator	2	1	3		3			
Wisconsin Moulding & Steel Co., Ranges	2		20		20		2	90
Total	4	1	23		23		2	90
CENTURIA, POLK CO.								
Centuria Heading Mill	1		10		10		1	50
Total	1		10		10		1	50
CHASEBURG, VERNON CO.								
Chaseburg Co-operative Co., Creamery	1		2		2		1	12
Chaseburg Roller Mills		1	3		3			
Larson & Peterson, Wagons and sleighs	1		2		2			
Raunetsberger, B., Wagons and sleighs	1		2		2			
Total	3	1	9		9		1	12

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CHILTON, CALUMET CO.								
Chilton Electric Light Co.....	2		2		2		1	75
Chilton Malting Co.....	5	1	15	1	16		4	450
Chilton Roller Mills.....		1	2		2			
Chilton Steam Laundry.....	3		1	2	3		1	8
Chilton Times, Printing.....	1		6		6			
Dorschel, Schultz Co., Sash and doors.....	5		10		10		1	80
Duencke & Rassch, Flour.....		1	2		2		1	45
Grlenow & Hoch Brewing Co.....	4		6		6		1	25
Juckam, Peter & Co., Elevator.....	5	1	3		3			
Knauf, N., Grain.....	4	1	2		2			
Uhhogge, G., Boiler repairs.....	2		2		2			
Rankober & Rau, Soda water.....	3		3		3			
Steam Granite & Marble Works.....	6		6		6		1	20
Union Elevator Co., Grain.....	1	1	3		3			
Union Roller Mills, Flour.....	2	1	6		6		1	100
Vahldieck, A. H., Foundry and machine shop.....	3		2		2		2	28
Wisconsin Demokrat, Printing.....	1		5		5			
Total	47	7	76	3	79		13	931
CHIPPEWA FALLS, CHIPPEWA CO.								
Bresina, John, Wagons.....	1		5		5			
Brooks, H. L., Monuments.....	1		3		3			
Chippewa Boom & Logging Co.....	12		500		500		6	900
Chippewa Falls Canning Co.....	5		150		150		2	60
Chippewa Falls Creamery Co.....	1		5		5		1	5
Chippewa Falls Furniture Co.....	2		50		50		1	80
Chippewa Falls Water & Light Co.....	4		12	1	13		2	150
Chippewa Herald, Printing.....	1		6	3	9			
Chippewa Falls Printing Co.....		1	2		2			
Chippewa Falls Shoe Mfg. Co.....	1		50	10	60			
Chippewa Steam Laundry.....	1		3	12	15		1	15
Chippewa Sugar Co., Sugar factory.....	9	1	200		200		12	2,000
Chippewa Falls Woolen Mills.....	2		10	10	20		1	75
Clark, R. H., Elevator.....	2	1	7		7			
Consolidated Milling & Elevator Co.....	2	1	7		7			
Daily Independent.....	1		11	4	15			
Dumars, Geo., Marble Works.....	1		2		2			
Farmers Product Co., Elevator.....	1	1	3		3			
Filber & Mishfoldt, Wagons.....	1		5		5			
Gotzian, C. & Co., Shoes.....		1	73	27	100			
Hand Made Boot & Shoe Co.....	1		32	3	35			
Leinenkugel Brewing Co.....	10	2	30		30		2	100
Mandelert Mercantile Co., Woolen goods.....	1	1	5	6	11		1	35
North Wisconsin Mfg. Co., Wood-working.....	2		20		20		1	50
Pannier, E. G., Wagons.....	1		7	1	8			
Stanley, F. C. & C. A., Furniture..	9		84	1	85		2	70
Total	72	9	1,282	78	1,360		32	3,540
CLEARLAKE, POLK CO.								
Montania & McLennan, Creamery..	1		2		2		1	13
Northern Grain Co., Grain and hay.....		1	2		2			
Total	1	1	4		4		1	18

TABLE 1.—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CASSVILLE, GRANT CO.								
Cassville Brewery	3	1	5		5		1	30
Cassville Record, Printing	1		2	1	3			
City Water Works & Electric Light Plant	1		1		1		1	40
Kleinpell Bros., Planing mill	4		4		4		1	60
Klindt-Geiger Canning Co.	4		60		60		3	205
Total	13	1	72	1	73		6	335
CAVOUR, FOREST CO.								
Bentzinger & Groomer, Lumber.....	1		16		16		1	65
Total	1		16		16		1	65
CEDARBURG, OZAUKEE CO.								
Cedarburg Brewery	6		6		6		1	25
Cedarburg Electric Light Co.	1		2		2		2	250
Cedarburg News	1		1	2	3			
Cedarburg Roller Mills	1	1	5		5			
Cedarburg Wire Nail Co.	4	1	12		12			
Cedarburg Woolen Mills	8	1	75	25	100		2	300
Columbia Flour Mill	3		3		3			
Excelsior Shoe & Slipper Co.	3		40	20	60		2	75
Hilgen Mfg. Co., Sash and doors ..	5		50		50		2	175
Liesenbug Grain Co.	1	1	2		2			
Milwaukee Falls Lime Co.	4		42		42		2	125
Rusk Bros., Flour	1	1	4		4			
Zann, Jacob, Grain, wood and coal ..		5	3		3		1	80
Total	38	10	245	47	292		12	1,030
CEDARGROVE, SHERBOYGAN CO.								
Northern Grain Co., Elevator.....	2	1	3		3			
Wisconsin Moulding & Steel Co., Ranges	2		20		20		2	90
Total	4	1	23		23		2	90
CENTURIA, POLK CO.								
Centuria Heading Mill	1		10		10		1	50
Total	1		10		10		1	50
CHASEBURG, VERNON CO.								
Chaseburg Co-operative Co., Creamery	1		2		2		1	12
Chaseburg Roller Mills		1	3		3			
Larson & Peterson, Wagons and sleighs	1		2		2			
Raunetsberger, B., Wagons and sleighs	1		2		2			
Total	3	1	9		9		1	18

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CHILTON, CALUMET CO.								
Chilton Electric Light Co.....	2		3		2		1	75
Chilton Malting Co.....	5	1	15	1	16		4	450
Chilton Roller Mills.....		1	2		2			
Chilton Steam Laundry.....	3		1	2	3		1	8
Chilton Times, Printing.....	1		6		6			
Dorschel, Schultz Co., Sash and doors.....	5		10		10		1	80
Duencke & Rassch, Flour.....		1	2		2		1	45
Grlenow & Hoch Brewing Co.....	4		6		6		1	25
Juckam, Peter & Co., Elevator.....	5	1	3		3			
Knauf, N., Grain.....	4	1	2		2			
Uhhogge, G., Boiler repairs.....	2		2		2			
Raukoher & Rau, Soda water.....	3		3		3			
Steam Granite & Marble Works.....	6		6		6		1	20
Union Elevator Co., Grain.....	1	1	3		3			
Union Roller Mills, Flour.....	2	1	6		6		1	100
Vahldieck, A. H., Foundry and machine shop.....	3		2		2		2	28
Wisconsin Demokrat, Printing.....	1		5		5			
Total	47	7	6	3	79		13	931
CHIPPEWA FALLS, CHIPPEWA CO.								
Bresina, John, Wagons.....	1		5		5			
Brooks, H. L., Monuments.....	1		3		3			
Chippewa Boom & Logging Co.....	12		500		500		6	900
Chippewa Falls Canning Co.....	5		150		150		2	80
Chippewa Falls Creamery Co.....	1		5		5		1	5
Chippewa Falls Furniture Co.....	2		50	1	50		1	80
Chippewa Falls Water & Light Co.....	4		12	1	13		2	150
Chippewa Herald, Printing.....	1		6	3	9			
Chippewa Falls Printing Co.....		1	2		2			
Chippewa Falls Shoe Mfg. Co.....	1		50	10	60		1	
Chippewa Steam Laundry.....	1		3	12	15			15
Chippewa Sugar Co., Sugar factory.....	9	1	200		200		12	2,000
Chippewa Falls Woolen Mills.....	2		10	10	20		1	75
Clark, R. H., Elevator.....	2	1	7		7			
Consolidated Milling & Elevator Co.....	2	1	7		7			
Daily Independent	1		11	4	15			
Dumars, Geo., Marble Works.....	1		2		2			
Farmers Product Co., Elevator.....	1	1	3		3			
Filber & Mishfaldt, Wagons.....	1		5		5			
Gotzian, C. & Co., Shoes.....		1	73	27	100			
Hand Made Boot & Shoe Co.....	1		32	3	35			
Leinenkugel Brewing Co.....	10	2	30		30		2	100
Mandelert Mercantile Co., Woolen goods.....	1	1	5	6	11		1	35
North Wisconsin Mfg. Co., Wood-working.....	2		20		20		1	50
Pannier, E. G., Wagons.....	1		7	1	8			
Stanley, F. C. & C. A., Furniture.....	9		84	1	85		2	70
Total	72	9	1,282	78	1,360		32	1,540
CLEARLAKE, POLK CO.								
Montania & McLennan, Creamery.....	1		2		2		1	13
Northern Grain Co., Grain and hay.....		1	2		2			
Total	1	1	4		4		1	13

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CLEVELAND, MANITOWOC CO.								
Cleveland Creamery Co.....	4	.....	16	4	20	1	1	65
Total	4	.....	16	4	20	1	1	65
CLINTONVILLE, WAUPACA CO.								
Clintonville Electric Light & Power Co.....	1	.....	1	.....	1	.....	2	100
Clintonville Mill & Improvement Co.....	1	1	3	.....	3	.....	1	20
Clintonville Steam Laundry.....	1	.....	1	3	4	.....	1	8
Clintonville Tribune, Printing.....	1	.....	3	4	7	.....	.....	.....
Gilt Edge Creamery.....	1	.....	1	.....	1	.....	1	20
Rohrer Mfg. Co., Lumber.....	3	.....	12	.....	12	.....	2	120
Zachow & Besserdick, Machine shop	3	.....	3	.....	3	.....	1	15
Total	11	1	30	7	37	.....	8	403
COLFAX, DUNN CO.								
Colfax Messenger, Printing.....	1	.....	2	.....	2	.....	.....	.....
Colfax Starch Co.....	1	.....	6	.....	6	.....	1	60
Homer & Olson, Feed.....	1	.....	2	.....	2	.....	.....	.....
Northern Grain Co., Elevator.....	2	1	2	.....	2	.....	.....	.....
Total	5	1	12	.....	12	.....	1	70
COLLINS, MANITOWOC CO.								
Kenzie Lime Co.....	4	.....	20	.....	20	.....	1	50
Metallic Screen Co., Window screens	2	.....	10	.....	10	.....	1	25
Standard Lime	2	.....	26	.....	26	.....	1	20
Total	9	.....	56	.....	56	.....	3	25
COLUMBUS, COLUMBIA CO.								
Brown & Udey, Flour and feed.....	2	.....	3	.....	3	.....	1	90
Columbus Canning Co.....	2	.....	33	12	50	.....	2	120
Columbus Democrat, Printing.....	1	.....	2	.....	2	.....	.....	.....
Columbus Electric Light & Water Plant	1	.....	3	.....	3	.....	2	100
Columbus Steam Laundry.....	1	.....	3	5	8	.....	1	15
Kurth Co., The, Brewery.....	3	7	30	.....	30	6	2	300
Republican, The, Printing.....	1	.....	4	.....	4	.....	.....	.....
Roberts, G. D., & Son, Repair shop	2	.....	5	.....	5	.....	.....	.....
Total	16	7	68	17	105	14	5	655
COMBINED LOCKS, OUTAGAMIE CO.								
Combined Locks Paper Co.....	4	1	240	5	245	.....	2	1,500
Total	4	1	240	5	245	.....	2	1,500
CONOVER, VILAS CO.								
Coleman, N., Brick yard.....	1	.....	12	.....	12	.....	1	20
Total	1	.....	12	.....	12	.....	1	20

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
COON VALLEY, VERNON CO.								
Cargill, W. W., Co, Elevator.....		1	1		1			
Central Wis. Creamery Co.....	1		2		2		1	12
Coon Valley News	1		1		1			
Coon Valley Roller Mill.....		1	4		4			
Throne, Albert, Wagons and sleighs	1		3		3			
Total	3	2	11		11		1	12
CORLISS, RACINE CO.								
Brown Corliss Engine Co., Engines	6		250		250		3	150
Total	6		250		250		3	150
COUDERAY, SAWYER CO.								
Couderay Lumber Co., Saw mill....	7		75		75		1	100
Total	7		75		75		1	100
CRANDON, FOREST CO.								
Bennett, W. B., Axhandles.....	1		10		10		1	50
Crandon Mfg. Co., Hubs and head- ings	5		30		30		2	200
Forest Republican, Printing.....	1		2	2	4			
Kempf, G. W., Planing mill.....	2		7		7		1	45
Page & Landeck, Lumber.....	6		128	2	130		3	300
Shaw Publishing Co.....	1		2	3	5			
Wisconsin Fruit Package Co., Boxes and baskets	3		34	7	41	4	1	80
Total	19		213	14	227	4	8	675
CUBA, GRANT CO.								
American Zinc & Lead Mining Co..	1		5		5			
Baxter Mining Co.....	1		30		30		3	200
Calumet Mining Co.....	2		12		12		2	100
Cuba City Creamery Co.....	1		2		2		1	60
Cuba City Feed Mill.....	1		1		1			
Cuba City Lead & Zinc Co.....	2		6		6		1	80
Cuba City News, Printing.....	1		3		3			
Doll Mining Co.....	1		50		50		3	250
Garrett Lead & Zinc Mining Co.....		1	5		5			
Gritty Six Mining Co.....	1		60		60		3	260
Meekers Grove Mining Co.....	1		4	1	5		1	60
Municipal Electric Light & Water Plant	1		1		1			
Reliable Mining Co.....	1		30		30		3	240
Rico Mining Co.....	1		6		6		1	100
Roosevelt Mining Co.	1		16		16		1	100
Total	16	1	231	1	232		19	1,450
CUDAHY, MILWAUKEE CO.								
Cudahy Packing Co.....	5	13	805	25	830	30	16	3,200
Milwaukee Rubber Works Co.....	5		78	12	90	1	3	450
Milwaukee Vinegar Co., Vinegar and yeast	9	3	46		46		3	300
Power & Mining Machinery Co.....	12	2	635		635	4	4	480
Total	31	17	1,564	37	1,601	44	26	4,380

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CUMBERLAND, BARRON CO.								
Beaver Dam Lumber Co., Saw mill.	3	.....	85	.....	95	4	3	240
Cole, David H., Stave and heading mill	4	.....	20	.....	20	5	1	125
Cumberland Advocate, Printing	1	.....	5	1	6	.....	.....	.....
Cumberland Creamery	1	.....	2	.....	2	.....	1	15
Cumberland Milling, Flour	4	.....	5	.....	5	.....	1	100
Cumberland Water & Electric Light Plant	1	.....	3	.....	3	.....	1	75
Free Press, Printing	1	.....	2	.....	2	.....	.....	.....
Neurer, A., Machine shop	1	.....	2	.....	2	.....	.....	.....
Total	16	.....	124	1	125	9	7	555
DARLINGTON, LAFAYETTE CO.								
Badger State Mineral Water Co.	2	.....	1	.....	1	.....	.....	.....
Darlington Democrat, Printing	1	.....	3	.....	3	.....	.....	.....
Darlington Electric Light & Water Co.	4	.....	3	.....	3	.....	1	130
Republican Journal, The, Printing	1	.....	2	1	3	.....	.....	.....
Sauer, E. A., Feed mill	1	.....	2	.....	2	.....	1	12
Total	9	.....	11	1	12	.....	2	162
DARTFORD, GREEN LAKE CO.								
Brooklyn Creamery Co.	1	.....	1	.....	1	.....	1	20
Green Lake Boat Factory	1	.....	2	.....	2	.....	.....	.....
Green Lake County Reporter & Dartford Advance	1	.....	2	1	3	.....	.....	.....
Green Lake Roller Mills, Flour	1	.....	3	.....	3	.....	.....	.....
Total	4	.....	6	1	7	.....	1	20
DEERBROOK, LANGLADE CO.								
Deerbrook Roller Mills	1	1	3	.....	3	.....	1	100
Britton, J. E., House moving rollers	1	.....	3	.....	3	.....	1	20
Total	2	1	6	.....	6	.....	2	120
DEERFIELD, DANE CO.								
City Water Works	1	.....	1	.....	1	.....	.....	.....
Colton, C. L., Leaf tobacco	1	.....	15	35	50	.....	.....	.....
Deerfield Creamery Co.	1	.....	2	.....	2	.....	1	25
Deerfield News, The, Printing	1	.....	2	.....	2	.....	.....	.....
Ree, O. K., Leaf tobacco	1	.....	16	34	50	1	.....	.....
Simonson, Ole, Feed mill	1	.....	2	.....	2	.....	.....	.....
Simonson, S. E., Leaf tobacco	1	.....	17	9	26	.....	.....	.....
Simonson & Erenson, Saw mill	1	.....	5	.....	5	.....	1	18
Total	8	.....	60	78	138	2	2	43
DEERPARK, ST. CROIX CO.								
Burkhardt Elevator, Grain and flour	1	.....	2	.....	2	.....	.....	.....
Deerpark Creamery	1	.....	2	.....	2	.....	.....	.....
Northern Grain Co., Elevator	.....	1	2	.....	2	.....	1	20
Total	2	1	6	.....	6	.....	1	20

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boil. rs.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
DELAVER, WALWORTH CO.								
Delavan Enterprise, Printing	1		3	3	6			
Delavan Frost Creamery	1		3		3		2	200
Delavan Milling Co.	1	1	4		4			
Delavan Republican, Printing	1		4	3	7			
Delavan Water Works	1		1		1		2	120
Globe Knitting Mills	2		20	40	60	1		
Hogg, N. W., Elevator and feed....	1		4		4		1	30
Quigley, J., Creamery	1		2		2		1	40
Reeder, J. B., Tanks and wind-mills	3		4		4			
West End Creamery	1		1		1		1	30
Total	13	1	51	46	97	1	7	410
DE PERE, BROWN CO.								
American Writing Paper Co.	11	3	135	145	280	12	4	500
Burns Roller Works	1		5	2	7	1		
De Pere Democrat, Printing	4		75		75		1	200
De Pere Light & Power Co.	2		5		5			
De Pere Lumber & Fuel Co.	7		17	1	18		1	150
De Pere News, Printing	1		2	4	6	2		
De Pere Steam Laundry	1		2	1	3		1	8
De Pere Tablet Co.	1		2	2	4			
Dousman, J. P., Flour	4	2	20		20			
Hockers, John, Brick yard	1		20		20		1	32
Kidney & Sons, Boats	6		13		13		1	25
Onelda Knitting Co.	1		3	37	40			
Lawton, C. A. Co., The, Machine shop	10		75		75		2	110
Shattuck & Babcock, Writing paper	6	7	115	180	275	13	13	3,000
Standard Printing Co., Paper	1		4		4			
Volkstein, Die, Printing	1		5	2	7			
Wells, A. G. Co., The, Elevator....	2	1	15	1	16		1	100
Western Steel Gate Co., Gates and post hole diggers	1		12	1	13			
Total	61	13	525	356	881	28	24	1,125
DERONDA, POLK CO.								
Deronda Creamery Co.	1		2		2		1	40
Total	1		2		2		1	40
DODGEVILLE, IOWA CO.								
Chronicle, The, Printing	1		3	3	6			
Dodgeville Electric Light & Power Co.	6		2		2		2	130
Dodgeville Roller Mill	1	1	2		2		1	50
Dodgeville Steam Laundry	1		6		6		1	15
Dodgeville Sun & Iowa Republican	1		2	2	4			
Esch Butter Tub Mfg. Co.	1		8		8			
Mitchell & Griffith, Creamery	3		4		4		1	20
Stratman, F. W., Wagons and carriages	4		15		15		1	30
Total	18	1	42	5	47		6	245
DORCHESTER, CLARK CO.								
Nelson & Berry, Shingles and staves	1		20		20		1	80
Paulson & Stephens, Lumber	2		35		35		2	100
Wells & Chase, Flour mill		1	4		4		1	65
Total	3	1	59		59		4	245

TABLE 1.—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CASSVILLE. GRANT CO.								
Cassville Brewery	3	1	5		5		1	30
Cassville Record, Printing	1		2	1	3			
City Water Works & Electric Light Plant	1		1		1		1	40
Kleinpell Bros., Planing mill	4		4		4		1	60
Kilndt-Geiger Canning Co.	4		60		60		3	205
Total	13	1	72	1	73		6	335
CAVOUR, FOREST CO.								
Bentzinger & Groomer, Lumber	1		16		16		1	65
Total	1		16		16		1	65
CEDARBURG, OZAUKEE CO.								
Cedarburg Brewery	6		6		6		1	25
Cedarburg Electric Light Co.	1		2		2		2	250
Cedarburg News	1		1	2	3			
Cedarburg Roller Mills	1	1	5		5			
Cedarburg Wire Nail Co.	4	1	12		12			
Cedarburg Woolen Mills	8	1	75	25	100		2	300
Columbia Flour Mill	3		3		3			
Excelsior Shoe & Slipper Co.	3		40	20	60		2	75
Hilgen Mfg. Co., Sash and doors ..	5		50		50		2	175
Liesenburg Grain Co.	1	1	2		2			
Milwaukee Falls Lime Co.	4		42		42		2	125
Rusk Bros., Flour	1		4		4			
Zann, Jacob, Grain, wood and coal ..		5	3		3		1	89
Total	38	10	245	47	292		12	1,030
CEDARGROVE, SHEBOYGAN CO.								
Northern Grain Co., Elevator	2	1	3		3			
Wisconsin Moulding & Steel Co., Ranges	2		20		20		2	90
Total	4	1	23		23		2	90
CENTURIA, POLK CO.								
Centuria Heading Mill	1		10		10		1	50
Total	1		10		10		1	50
CHASEBURG, VERNON CO.								
Chaseburg Co-operative Co., Creamery	1		2		2		1	12
Chaseburg Roller Mills		1	3		3			
Larson & Peterson, Wagons and sleighs	1		2		2			
Raunetsberger, R., Wagons and sleighs	1		2		2			
Total	3	1	9		9		1	14

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CHILTON, CALUMET CO.								
Chilton Electric Light Co.....	2		9		2		1	75
Chilton Malting Co.....	5	1	15	1	16		4	450
Chilton Roller Mills.....		1	2		2			
Chilton Steam Laundry.....	3		1	2	3		1	8
Chilton Times, Printing.....	1		6		6			
Dorschel, Schultz Co., Sash and doors.....	5		10		10		1	80
Duencke & Rassch, Flour.....		1	2		2		1	45
Grlenow & Hoch Brewing Co.....	4		6		6		1	25
Juckam, Peter & Co., Elevator.....	5	1	3		3			
Knauf, N., Grain.....	4	1	2		2			
Uhhogge, G., Boiler repairs.....	2		2		2			
Raukober & Rau, Soda water.....	3		3		3			
Steam Granite & Marble Works.....	6		6		6		1	20
Union Elevator Co., Grain.....	1	1	3		3			
Union Roller Mills, Flour.....	2	1	6		6		1	100
Vahldieck, A. H., Foundry and machine shop.....	3		2		2		2	28
Wisconsin Demokrat, Printing.....	1		5		5			
Total.....	47	7	66	3	70		13	931
CHIPPEWA FALLS, CHIPPEWA CO.								
Bresina, John, Wagons.....	1		5		5			
Brooks, H. L., Monuments.....	1		3		3			
Chippewa Boom & Logging Co.....	12		500		500		6	400
Chippewa Falls Canning Co.....	5		150		150		2	60
Chippewa Falls Creamery Co.....	1		5		5		1	6
Chippewa Falls Furniture Co.....	2		50		50		1	80
Chippewa Falls Water & Light Co.....	4		12	1	13		2	150
Chippewa Herald, Printing.....	1		6	3	9			
Chippewa Falls Printing Co.....		1	2		2			
Chippewa Falls Shoe Mfg. Co.....	1		50	10	60			
Chippewa Steam Laundry.....	1		3	12	15		1	15
Chippewa Sugar Co., Sugar factory.....	9	1	200		200		12	2,000
Chippewa Falls Woolen Mills.....	2		10	10	20		1	75
Clark, R. H., Elevator.....	2	1	7		7			
Consolidated Milling & Elevator Co.....	2	1	7		7			
Dally Independent.....	1		11	4	15			
Dumars, Geo., Marble Works.....	1		2		2			
Farmers Product Co., Elevator.....	1	1	3		3			
Filler & Mishfoldt, Wagons.....	1		5		5			
Gotzian, C., & Co., Shoes.....		1	73	27	100			
Hand Made Boot & Shoe Co.....	1		32	3	35			
Leinenkugel Brewing Co.....	10	2	30		30		2	100
Mandelert Mercantile Co., Woolen goods.....	1	1	5	6	11		1	35
North Wisconsin Mfg. Co., Wood-working.....	2		20		20		1	50
Pannier, E. G., Wagons.....	1		7	1	8			
Stanley, F. C. & C. A., Furniture.....	9		84	1	85		2	70
Total.....	72	9	1,232	78	1,300		32	3,540
CLEARLAKE, POLK CO.								
Montania & McLennan, Creamery.....	1		2		2		1	13
Northern Grain Co., Grain and hay.....		1	2		2			
Total.....	1	1	4		4		1	13

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
CLEVELAND, MANITOWOC CO.								
Cleveland Creamery Co.....	4	.....	16	4	20	1	1	65
Total	4	.....	16	4	20	1	1	65
CLINTONVILLE, WAUPACA CO.								
Clintonville Electric Light & Power Co.	1	.....	1	.....	1	.....	2	100
Clintonville Mill & Improvement Co.	1	1	3	.....	3	.....	1	30
Clintonville Steam Laundry.....	1	.....	1	3	4	.....	1	8
Clintonville Tribune, Printing.....	1	.....	3	4	7	.....	.....	.....
Gilt Edge Creamery.....	1	.....	1	.....	1	.....	1	20
Rohrer Mfg. Co., Lumber.....	3	.....	19	.....	18	.....	2	120
Zachow & Besserdick, Machine shop	3	.....	3	.....	3	.....	2	15
Total	11	1	30	7	37	.....	8	403
COLFAX, DUNN CO.								
Colfax Messenger, Printing.....	1	.....	2	.....	2	.....	.....	.....
Colfax Starch Co.	1	.....	6	.....	6	.....	1	60
Homer & Olson, Feed.....	1	.....	2	.....	2	.....	.....	.....
Northern Grain Co., Elevator.....	2	1	2	.....	2	.....	.....	.....
Total	5	1	12	.....	12	.....	1	60
COLLINS, MANITOWOC CO.								
Wannre Lime Co.....	4	.....	20	.....	20	.....	1	50
Metallic Screen Co., Window screens	2	.....	10	.....	10	.....	1	25
Standard Lime	2	.....	26	.....	26	.....	1	20
Total	8	.....	56	.....	56	.....	3	95
COLUMBUS, COLUMBIA CO.								
Brown & Udey, Flour and feed.....	2	.....	3	.....	3	.....	1	20
Columbus Canning Co.....	2	.....	32	12	50	2	2	120
Columbus Democrat, Printing.....	1	.....	2	.....	2	.....	.....	.....
Columbus Electric Light & Water Plant	1	.....	3	.....	3	.....	2	100
Columbus Steam Laundry.....	1	.....	3	5	8	.....	1	15
Kurth Co., The, Brewery.....	3	7	30	.....	30	6	2	300
Republican, The, Printing.....	1	.....	4	.....	4	.....	.....	.....
Roberts, G. D., & Son, Repair shop	1	.....	5	.....	5	.....	.....	.....
Total	16	7	98	17	105	14	8	655
COMBINED LOCKS, OUTAGAMIE CO.								
Combined Locks Paper Co.....	4	1	240	5	245	.....	8	1,500
Total	4	1	240	5	245	.....	8	1,500
CONOVER, VILAS CO.								
Coleman, N., Brick yard.....	1	.....	12	.....	12	.....	1	60
Total	1	.....	12	.....	12	.....	1	60

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
COON VALLEY, VERNON CO.								
Cargill, W. W., Co, Elevator.....		1	1		1			
Central Wis. Creamery Co.....	1		2		2		1	12
Coon Valley News.....	1		1		1			
Coon Valley Roller Mill.....		1	4		4			
Throne, Albert, Wagons and sleighs	1		3		3			
Total	3	2	11		11		1	12
CORLISS, RACINE CO.								
Brown Corliss Engine Co., Engines	6		250		250		2	150
Total	6		250		250		2	150
COUDERAY, SAWYER CO.								
Couderay Lumber Co., Saw mill....	7		75		75		1	100
Total	7		75		75		1	100
CRANDON, FOREST CO.								
Bennett, W. B., Axhandles.....	1		10		10		1	50
Crandon Mfg. Co., Hubs and head- ings	5		30		30		2	200
Forest Republican, Printing.....	1		2	2	4			
Kempf, G. W., Planing mill.....	2		7		7		1	45
Page & Landeck, Lumber.....	6		125	2	130		3	300
Shaw Publishing Co.....	1		2	3	5			
Wisconsin Fruit Package Co., Boxes and baskets	3		34	7	41	4	1	80
Total	19		213	14	227	4	8	675
CUBA, GRANT CO.								
American Zinc & Lead Mining Co..	1		5		5			
Baxter Mining Co.....	1		30		30		3	200
Calumet Mining Co.....	2		12		12		2	100
Cuba City Creamery Co.....	1		2	2	2		1	60
Cuba City Feed Mill.....	1		1		1			
Cuba City Lead & Zinc Co.....	2		6		6		1	80
Cuba City News, Printing.....	1		3		3			
Doll Mining Co.....	1		50		50		3	250
Garrett Lead & Zinc Mining Co.....		1	5		5			
Gritty Six Mining Co.....	1		60		60		3	260
Meakers Grove Mining Co.....	1		4	1	5		1	60
Municipal Electric Light & Water Plant	1		1		1			
Reliable Mining Co.....	1		30		30		3	240
Rico Mining Co.....	1		6		6		1	100
Roosevelt Mining Co.....	1		16		16		1	100
Total	16	1	231	1	232		19	1,450
CUDAHY, MILWAUKEE CO.								
Cudahy Packing Co.....	5	12	805	25	830	39	16	3,200
Milwaukee Rubber Works Co.....	5		78	12	90	1	3	450
Milwaukee Vinegar Co., Vinegar and yeast	9	3	46		46		3	300
Power & Mining Machinery Co.....	12	2	685		685	4	4	430
Total	31	17	1,564	37	1,601	44	26	4,380

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total l. p.
CUMBERLAND, BARRON CO.								
Beaver Dam Lumber Co., Saw mill.	3		53		53	4	3	240
Cole, David H., Stave and heading mill	4		20		20	5	1	125
Cumberland Advocate, Printing	1		5	1	6			
Cumberland Creamery	1		2		2		1	15
Cumberland Milling, Flour	4		5		5		1	100
Cumberland Water & Electric Light Plant	1		3		3		1	75
Free Press, Printing	1		2		2			
Neurer, A., Machine shop	1		2		2			
Total	16		124	1	125	9	7	555
DARLINGTON, LAFAYETTE CO.								
Badger State Mineral Water Co.	2		1		1			
Darlington Democrat, Printing	1		3		3			
Darlington Electric Light & Water Co.	4		3		3		1	150
Republican Journal, The, Printing	1		2	1	3			
Sauer, E. A., Feed mill	1		2		2		1	12
Total	9		11	1	12		2	162
DARTFORD, GREEN LAKE CO.								
Brooklyn Creamery Co.	1		1		1		1	20
Green Lake Boat Factory	1		2		2			
Green Lake County Reporter & Dartford Advance	1		2	1	3			
Green Lake Roller Mills, Flour	1		3		3			
Total	4		6	1	7		1	20
DEERBROOK, LANGLADE CO.								
Deerbrook Roller Mills	1	1	3		3		1	100
Britton, J. E., House moving rollers	1		3		3		1	20
Total	2	1	6		6		2	120
DEERFIELD, DANE CO.								
City Water Works	1		1		1			
Colton, C. L., Leaf tobacco	1		15	35	50			
Deerfield Creamery Co.	1		2		2		1	25
Deerfield News, The, Printing	1		2		2			
Ree, O. K., Leaf tobacco	1		16	34	50	1		
Simonson, Ole, Feed mill	1		2		2			
Simonson, S. E., Leaf tobacco	1		17	9	26	1		
Simonson & Brenson, Saw mill	1		5		5		1	18
Total	8		60	78	138	2	2	43
DEERPARK, ST. CROIX CO.								
Burkhardt Elevator, Grain and flour	1		2		2			
Deerpark Creamery	1		2		2		1	20
Northern Grain Co., Elevator		1	2		2			
Total	2	1	6		6		1	20

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boil. rs.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
DELAVER, WALWORTH CO.								
Delavan Enterprise, Printing	1		3	3	6			
Delavan Frost Creamery	1		8		8		2	200
Delavan Milling Co.	1	1	4		4			
Delavan Republican, Printing	1		4	3	7			
Delavan Water Works	1		1		1		2	120
Globe Knitting Mills	2		20	40	60	1		
Hogg, N. W., Elevator and feed	1		4		4		1	30
Quigley, J., Creamery	1		2		2		1	40
Reider, J. B., Tanks and wind-mills	3		4		4			
West End Creamery	1		1		1		1	20
Total	13	1	51	46	97	1	7	410
DE PERE, BROWN CO.								
American Writing Paper Co.	11	3	135	145	280	12	4	500
Burns Roller Works	1		5	2	7	1		
De Pere Democrat, Printing	4		75		75		1	200
De Pere Light & Power Co.	2		5		5			
De Pere Lumber & Fuel Co.	7		17	1	18		1	150
De Pere News, Printing	1		2	4	6	2		
De Pere Steam Laundry	1		2	1	3		1	8
De Pere Tablet Co.	1		2	2	4			
Dousman, J. P., Flour	4	2	20		20			
Hockers, John, Brick yard	1		20		20		1	32
Kidney & Sons, Boats	6		13		13		1	25
Oneida Knitting Co.	1		3	37	40			
Lawton, C. A. Co., The, Machine shop	10		75		75		2	110
Shattuck & Babcock, Writing paper	6	7	115	100	215	13	12	3,000
Standard Printing Co., Paper	1		4		4			
Volkstein, Die, Printing	1		5	2	7			
Wells, A. G. Co., The, Elevator	2	1	15	1	16		1	100
Western Steel Gate Co., Gates and post hole diggers	1		12	1	13			
Total	61	13	525	356	881	28	24	4,125
DERONDA, POLK CO.								
Deronda Creamery Co.	1		2		2		1	40
Total	1		2		2		1	40
DODGEVILLE, IOWA CO.								
Chronicle, The, Printing	1		3	3	6			
Dodgeville Electric Light & Power Co.	6		2		2		2	130
Dodgeville Roller Mill	1	1	2		2		1	50
Dodgeville Steam Laundry	1		6		6		1	15
Dodgeville Sun & Iowa Republican	1		2	2	4			
Esch Butter Tub Mfg. Co.	1		8		8			
Mitchell & Griffith, Creamery	3		4		4		1	20
Stratman, F. W., Wagons and carriages	4		15		15		1	30
Total	18	1	42	5	47		6	245
DORCHESTER, CLARK CO.								
Nelson & Berry, Shingles and staves	1		20		20		1	80
Paulson & Stephens, Lumber	2		35		35		2	100
Wells & Chase, Flour mill		1	4		4		1	65
Total	3	1	59		59		4	245

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
DRUMMOND, BAYFIELD CO.								
Rust—Owen Lumber Co.	12		150		150	2	2	200
Total	12		150		150	2	2	200
DUNBAR, MARINETTE CO.								
Gerad Lumber Co.	6		136	6	142	1	6	600
Total	6		136	6	142	1	6	600
EAGLEPOINT, CHIPPEWA CO.								
Clark, R. B., Elevator		1	1		1			
Total		1	1		1			
EAGLE RIVER, VILAS CO.								
Eagle River Light & Power Co.	1		2		2		2	150
Total	1		2		2		2	150
EAU CLAIRE, EAU CLAIRE CO.								
Ashbaugh Printing Co.		1	2		2			
Bergman, C. H., Elevator	2		3	1	4			
Bonnell & Son, Wagons	2		9	1	10			
Chippewa Valley Electric Ry. Power house	2		3		3		2	300
Cutter, A. A., Shoes	1		67	17	84			
Dally Leader, Printing	1		25	5	30			
Dells Lumber & Shingle Co.	7		249	1	250		3	450
Dells Paper & Pulp Co.	13	1	328	17	345	1	7	1,400
Dickinson, J., Brooms	1		3		3			
Daniel Shaw Lumber Co.	13		290		290	2	6	950
Drummond Packing Co.	c	1	50		50		1	50
Dumphy Boat Works	1		4		4			
Eau Claire Bedding Co.	1		12	4	16			
Eau Claire Boiler Works, Machine shop	1		5		5			
Eau Claire Box & Lumber Co., Boxes	7		60		60	22	2	150
Eau Claire Cornice & Heating Co.	1		7	1	8			
Eau Claire Gas Works	2		5		5		1	25
Eau Claire Light & Power Co.	2		4		4		4	320
Eau Claire Linen Co., Linen goods	4	1	7	45	52	2	1	40
Eau Claire Mill Supply Co., Logging machinery	2		10		10			
Eau Claire Robe & Fur Tannery	1		2		2			
Eau Claire Trunk Co.	1		13	4	17			
Eau Claire Wagon & Carriage Works	2		11	1	12			
Eau Claire Water Works Co.	2		2		2		3	240
Fish, E. M. Co., Woodworking	4		59	1	60		1	35
Fremad Publishing Co., Printing	1		4	3	7			
Half Moon Lake Shingles & Fuel Co., Saw mill	6		50		50		5	240
Huebsch Laundry Co.	1		12	56	68		1	50
Hoepfner & Bartlett Co., Woodworking	5		65		65		1	25
Kaiser Lumber Co., Box factory and saw mill	5		75		75	9	5	600
Lake Side Elevator Co.	3		4		4		1	50
Lange Canning Co.	10		78	69	147	2	2	150
Larson, C. P., Shoe Co.,	1		15	20	35	4		

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
EAU CLAIRE—Continued.								
Linderman Box & Veneer Co., Boxes	7		75		75	23	2	100
McDonough Mfg. Co., Iron works..	3		115		115			
Mender, R. L., Candy	1		9	16	25			
Michel's Brewery	3	2			9		1	40
Northern Grain Co., Elevator		1	4		4			
Northwestern Iron & Steel Works, Gas engines	3		20		20			
Northwestern Lumber Co.	12		120		120		6	300
Pauly Printing House		2	3	2	5			
Phoenix Furniture Co.	4		44	1	45		1	30
Phoenix Mfg. Co., Saw mill machinery	11		100		100		1	150
Pioneer Furniture Co.	4	2	75		75	10	3	250
Ritchie-Clark Co., Furniture	1	1	15		15		1	60
Schroeder, W. A., Awnings	1		3		3			
Taylor Lumber Co.	6		12	3	15			
Telegram Publishing Co.	1		65	2	67		3	500
Volkmann, C., Bottling	1		4		4			
Walter, J. & Co., Brewery	3	1	14		14		1	100
Wisconsin Refrigerator Co.	4		100		100		3	300
Total	151	13	2,390	270	2,560	75	67	1,955
EDGAR, MARATHON CO.								
Bauer, Frank, Machinist	1		10		10		1	10
Edgar Bottling Works	1		1		1			
Hill, Thomas, Brick yard	1		10		10		1	25
Quaw Lumber Co., Saw and planing mill	6		60		60		4	140
Total	9		51		51		6	175
EDGERTON, ROCK CO.								
American Cigar Co., Leaf tobacco..	4		160	90	250	4		
Bamberger, L., Leaf tobacco		1	23	86	114	3		
Berg, Ole, Leaf tobacco	1		40		40			
Burge, F. F., Machinery	1		4		4			
Childs, H. W., Leaf tobacco	1		24	52	76	4		
City Steam Laundry	1		2	1	3		1	10
Conway & Hubbell, Leaf tobacco..	1		46	12	58	1		
Conway Bros., Leaf tobacco	1		10	32	42	1		
Coulton & Well, Leaf tobacco	1		100	20	120			
Edgerton Eagle, The Printing	1		2		2			
Edgerton Machine Works, Machinist	1		2		2			
Eisenlohr, Otto & Bros., Leaf tobacco	1		25	40	65			
Heddles Lumber Co., Boxes	1		15		15			
Hoen, Andrew, Leaf tobacco	1		35		35			
Jensen, Andrew & Sons, Leaf tobacco	1		63	19	82			
Leary, Joseph, Leaf tobacco	1		20		20			
Mabbett, C. F., Leaf tobacco	1		14	38	52			
McIntosh Bros., Leaf tobacco	1		23	42	65			
Madden Bros., Leaf tobacco	1		15	5	20			
Marsden & Watson, Wagons	1		3		3			
Meyer & Mendelson, Leaf tobacco	1		50	22	72			
Nelsons, Nels, Leaf tobacco	1		15	25	40			
Perry & Pearson, Leaf tobacco	1		10		10			
Pomeroy, W. T., Leaf tobacco	1		25	8	33			
Scott, L. W., Leaf tobacco	1		8	32	40			
Spitzner, C. H. & Son, Leaf tobacco	1		23	60	83	4		
Sweeney, H. T., Leaf tobacco	1		20		20			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
EDGERTON—Continued.								
Tsenlohr, Otto, Leaf tobacco	3		91	36	127			
United Cigar Mfg., Leaf tobacco	1		101	50	150			
Whittier, D. C., Feed	1		3		3			
Wilson Bros., Patent medicines		1	12	4	16			
Wisconsin Tobacco Reporter, Printing	1		4		4			
Total	34	2	1,003	683	1,686	17	1	10
ELKHART, SHEBOYGAN CO.								
Brickbrauer, P. W., Elevator		1	1		1			
Laun Bros., Elevator		1	2		2			
Total		2	3		3			
ELKHORN, WALWORTH CO.								
Blade, The, Printing	1		1	1	2			
Elkhorn Electric Light & Water Co.	2		3		3		2	100
Elkhorn Independent, Printing		1	5	4	9			
Elkhorn Lumber Co., Feed mill	1		8		8		1	83
Elkhorn Lumber Co., Elevator	2	1	7		7		1	40
Elkhorn Planing mill	1		3		3		1	30
Elkhorn Steam Laundry	1		2	3	5		1	10
Opitz, Fred, Carriages	3		9		9		1	15
Wisconsin Butter & Cheese Co.	1		5		5		1	40
Zwiebel & Grebel, Repair shop	3		5		3		1	35
Total	15	2	46	8	54		9	410
ELKMOUND, DUNN CO.								
Wisconsin Elevator Co.	1	1	2		2			
Carghill, W. W., Elevator	1		1		1			
Elkmound Creamery	1		2		2		1	12
Total	3	1	5		5		1	12
ELLSWORTH, PIERCE CO.								
Ellsworth Light, Heat & Power Co.	1		3		3		1	150
Ellsworth Mfg. Co., Saw mill	1		15		15		2	80
Ellsworth Record, Printing			2		2			
Hines, F. W., Elevator		1	3		3			
Milbourn Dairy Co., Creamery	1		2		2		1	25
New Richmond Roller Mills Co.		1	3		3			
Pierce County Herald, Printing	1		3		3			
St. Paul Milk & Dairy Co., Creamery	2		2		2		1	20
Total	7	2	33		33		5	275
ELMGROVE, WAUKESHA CO.								
Elmgrove Feed mill	1		1		1			
Total	1		1		1			
ELMWOOD, PIERCE CO.								
Elmwood Creamery	1		2		2		1	16
Total	1		2		2		1	16

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
ELROY, JUNEAU CO.								
Avary, F. W., Machinist.....	1		1		1			
Chicago, St. Paul, Minneapolis & Omaha Ry., Round house....	4		43		43		3	180
De Long, R. M., Flour and feed....	1	1	3		3		1	50
Elroy Leader, The, Printing.....	1		1	1	2			
Elroy Tribune, The, Printing.....	1		2		2			
McNowne, Geo., Contractor.....	1		1		1		1	50
Minneapolis Electric Light & Water Works.....	1		8		8		2	233
Ruby Steam Laundry.....	1		3	3	6			
Total	11	1	57	4	61		7	470
EVANSVILLE, ROCK CO.								
Baker Mfg. Co., Engines and pumps	13		98		98		2	251
Baldwin Bros., Feed.....	2		1		1			
Barnard & Wilder, Leaf tobacco....	2		10	36	46			
Brand, John, & Co., Leaf tobacco	1		14	34	48			
Enterprise & Tribune, The, Printing	1		4		4		1	5
Evansville Steam Laundry.....	1		1	3	4			
Evansville Water & Light Co.....	1		2		2		2	200
Heddies, D. F., Leaf tobacco.....	1		45		45			
Lovejoy Lumber Co., Boxes.....	1		2		2			
Review, The, Printing.....	1		3	2	5			
Rumville, G. H., Leaf tobacco.....	3		10	28	38			
Smith, E. E., Leaf tobacco.....	1		4	20	24	1		
Wood, D. E., Butter Co., Creamery and butter renovating.....	5	1	20		20		3	205
Total	33	1	214	123	337	1	8	653
FAIRCHILD, EAU CLAIRE CO.								
Brookside Creamery	1		1		1		1	20
Foster, W. C., Lumber Co., Elevator and grist mill.....	2		2		2		1	150
Foster, W. C., Lumber Co., Electric light plant.....	1		1		1		2	100
Observer, The, Printing.....	1		1	3	4			
Total	5		5	3	8		4	270
FENNIMORE, GRANT CO.								
Buderman & Sheedy, Wagons	1		5		5			
Farmers Mutual Cooperation, Creamery	1		1		1		1	15
Fennimore Creamery	1		1		1			
Fennimore Light & Water Co.....	1		2		2		1	125
Fennimore Times	1		4	1	5			
Hinn Bros., Flour and feed.....	2		2		2		1	40
Total	8		15	1	16		3	183
FLORENCE, FLORENCE CO.								
City Light & Water Plant.....	1		2		2		2	200
Commonwealth Iron Co., Mining.....	5		40		40		5	500
Florence Butter & Cheese Co.....	1		1		1		1	150
Florence Iron Co., Mining.....	11		200		200		4	300
Florence Mining News.....	1		3		3			
Total	19		246		246		12	1,210

TABLE 1—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
FOND DU LAC, FOND DU LAC CO.								
Able Brothers, Machine shop.....	1		2		2			
Adrian, Frank, Machine shop.....	1		2		2			
American Chemical Co., Patent medicine	1		2	5	7			
Badger Sewing Co., Jackets and overalls	2		15	100	115	5	3	200
Bechaud Brewing Co.	4	1	12		12		3	150
Bowen Mfg. Co., Refrigerators.....	4		100		100			
Bulletin Printing Co.	1		20	6	26	1		
Castle-Pierce, Printing Co.....	1		15	5	20			
Crescent Laundry	2		1	5	6			
Daily Commonwealth, Printing.....		1	22	13	35		1	20
Eastern Wis. Ry. Light & Power Co., Light and power.....	3		300	6	306		5	2,350
Eastern Wis. Ry. Light & Power Co., Gas	5		7		7		2	100
Eureka Laundry Co.		1	5	10	15		1	20
Fond du Lac Awning & Tent Co....		1	6	13	24			
Fond du Lac Blank Book Co., Ptg.	1		8		8			
Fond du Lac Church Furniture Co.	1		4		4			
Fond du Lac Tile Co.	1		1		1		1	35
Fond du Lac Implement Co.....	4	1	12		12		1	40
Fond du Lac Malt & Grain Co.....	2	3	10		10		1	60
Fond du Lac Pressed Brick Co.....	3		40		40		1	150
Fond du Lac Shirt & Overall Co....		1	13	68	81	5		
Fond du Lac Steam Laundry.....	1		7	20	27		1	40
Fond du Lac Table Mfg. Co.....	2		55		55	5	2	300
Fond du Lac Water Works.....	1		4		4		2	150
Gliesing & Lewis, Saw mill machinery	4		65		65		1	80
Graham Awning Co., Awnings and blankets	1		2	3	5			
Grant, F. W., Broom Co.....	1		8	3	11			
Gurney Refrigerator Co.....	5	3	180		180	8	3	265
Haase, H. E., Gas engines.....	1		3		3			
Haber, P. B., Printing Co.....		1	15	15	30	1		
Helmer Milling Co., Feed.....	4	1	5		5		2	175
Holman Candy Co.		1	29	33	62	7	1	100
Huber & Fuhrmann Drug Co.....	5		16	4	20		1	125
Moore-Galloway Lumber Co.....	7		200	1	201		1	150
National Stock Food Co.....		1	7	1	8			
Nehrbars Casket Co.....		1	29	4	33		1	150
Northwestern Car Shops.....	6		75		75	3	2	160
Northwestern Courier, Printing.....	1		4	2	6			
Pope Mfg. Co., Boats.....	1		5		5			
Quentin, P. N., Repair shops.....	1		2		2			
Reporter Printing Co.....		1	25	2	27	2		
Rueping, Fred, Leather Co.....	13	4	400		400	6	6	500
Sander Bros., Brewery.....	3	1	5		5		1	30
Steinberg, O. C., Sash, doors and blinds	7	1	40		40		1	125
Wells, M. D. Co., Shoes.....	1	1	300	150	450	24	2	100
Swett, B. F. & H. H., Sleighs and wagons	7		40		40		1	150
Winnabago Furniture Mfg. Co.....	4	3	250		250	20	1	150
Wisconsin Central Shops.....	10	1	500		500		4	400
Wisconsin Envelope & Box Co.....	1		13	12	25			
Wisconsin Mirror & Plate Glass Co.	1		23		23		1	50
Total	125	29	2,804	436	3,280	97	52	1,335

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
FOREST JUNCTION, CALUMET CO.								
Cargill Grain Co., Elevator.....		1	4		4			
Total		1	4		4			
FORT ATKINSON, JEFFERSON CO.								
City Brewery	2		5		5		1	35
City Water & Light Plant.....	3		7		7		2	300
Cornish, Curtis & Green, Dairy supplies	4	1	180	1	181		2	100
Fort Atkinson Creamery Co.	4		39	11	50	3	1	60
Fort Atkinson Steam Laundry.....	1		4	3	7		1	15
Hoard's Creamery	4	1	8	3	11		2	40
Hoard's Dairyman & Jefferson Co. Union	4		25	25	50		1	90
Jones Dairy Farm, The, Sausage... ..	1		21	4	25		1	40
Landgraf & Wandschneider, Repairing	1		4		4			
Northwestern Mfg. Co., Wagons and sleighs	12	2	240		240		3	245
Pounder, Geo., Harrows	4		8		8		1	20
Wilcox Lumber Co., Elevator.....	2	2	4		4		1	25
Ziegner & Hoffman Lumber Co., Elevator	2	1	5		5		1	40
Total	44	7	559	47	597	3	17	990
FOUNTAIN CITY, BUFFALO CO.								
Alert Mill, Flour.....	1	1	4		4		1	65
Bohrn, F., & Sons, Elevator.....		1	1		1			
Buffalo Co. Republikaner, Printing	1		4		4			
Dressendorfer, A., Wagons	2		4		4		1	12
Fountain City Cooperative Creamery Co.	1		3		3		1	15
Fountain City Bottling Works.....	1		1		1			
Fountain City Brewing Co.		1	5		5		1	60
Roettiger, H. F., Contractor.....	1		12		12		1	80
Total	7	3	34		34		5	232
FOXLAKE, DODGE CO.								
Clausen H., Elevator.....	1	1	3		3		1	20
Foxlake Brewing Co.	1		5		5		1	20
Foxlake Gas Plant.....	1		1		1			
Foxlake Mills		1	4		4			
Porter & Proctor, Elevator.....	1		2		2			
Total	4	2	15		15		2	40
FREDERIC, POLK CO.								
Frederic Hoop Factory.....	1		20		20		1	80
Grimh Bros., Flour		1	4		4		1	40
Levath Lumber Co.	1		40		40		2	80
Minneapolis Co-operative Barrel Co., barrel staves	1		25		25		2	60
Total	3	1	89		89		6	260

TABLE I.—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
FREMONT, WAUPACA CO.								
Fremont Creamery	1		1		1		1	12
Steiger, J. J., Saw and planing mill	1		3		3		1	25
Total	2		4		4		2	37
GAGEN, ONEIDA CO.								
Minneapolis Cedar & Lumber Co....	4		65		65		3	230
Total	4		65		65		3	250
GALESVILLE, TREMPLEAU CO.								
Arctic Springs Co., Creamery.....	2		2		2		1	15
Galesville Independent, Publishing.	1		2	1	3			
Galesville Milling Co., Flour and light	1	1	6	1	7			
Galesville Republican, Publishing...	1		2		2			
High Cliff Wagon Works.....	1		2		2			
Northern Grain Co., Elevator.....		1	2		2			
Ball, Geo., Mfg. Co., Sash, moldings, etc.	2		5		5		1	50
Total	8	2	21	2	23		2	65
GAYS MILLS, CRAWFORD CO.								
Pomroy, O. R., Tobacco warehouse	1		25	29	54			
Total	1		25	29	54			
GENOA JUNCTION, WALWORTH CO.								
Borden's Condensed Milk Co.....	4		43		43		3	210
Burgett Bros., Feed and grist.....	1		2		2		2	76
Cary, J. M., Feed and grist	1		4		4			
Gibbs, H. A., Ice cream	1		2		2			
Total	7		51		51		5	286
GLENDALE, MONROE CO.								
Baldwin, F. E., Elevator	1		1		1			
Glendale Co-op Creamery	2		1		1		1	30
Glendale Roller Mills, Flour	2		2		2		1	50
Total	5		4		4		2	70
GLENWOOD, ST CROIX CO.								
Glenwood Creamery	2		2		2		1	30
Total	2		2		2		1	30
GLIDDEN, ASHLAND CO.								
Glidden Veneer Co.	8		100		100		4	450
Kern, G. H., Staves	2		18		18		2	100
Rogers & Emmons Lumber Co.	1		40		40		2	150
Sells, Geo., Shingles	1		8		8		1	40
Tyler, D. F., Water and light	1		1		1		1	60
Total	13		167		167		10	800

TABLE 1—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
GRAFTON, OZAUKEE CO.								
Badger Woolen Mill, Yarn	3	1	14	28	42	4	1	8
Grafton Brewing Co.	6		4		4		1	8
Grafton Roller Mill, Flour		1	4		4			
Total	9	2	22	28	50	4	2	16
GRAND RAPIDS, WOOD CO.								
Badger Box & Lumber Co., Boxes.	5		62		62	6	1	150
Baumgartner's Laundry	1		1	4	5	1		
Centralia Pulp and Water Power Co.	6		65	5	70	1	3	300
Chambers Creamery Co.	1		2		2			
Consolidated Water Power Co., Paper	7	1	160	0	160		3	900
Grand Rapids Brewing Co.	3	1	14		14		1	80
Grand Rapids Electric Light & Water Co.	1		4		4		2	175
Grand Rapids Foundry Co.	2		16	1	17			
Grand Rapids Lumber Co., Saw mill	9		90		90	3	6	350
Grand Rapids Milling Co., Flour and feed	2	2	14		14			
Grand Rapids Pulp & Paper Co.	6		68		68	1		
Grand Rapids Sash & Door Co.	2		6		6		1	80
Grand Rapids Table Co.	2	2	16	2	18		1	65
Grand Rapids Tribune, Publishing	1		3	2	5			
Krueger, G. F. & Co., Machine shop	1		1		1			
Krueger & Nelson, Boring tools	1		2		2			
McKennon, F., Mfg. Co., Hubs, spokes, etc.	14	1	60		60		1	110
Overbeck Bros., Mfg. Co., Furniture	6	2	141	8	149	2	3	225
Pioneer Wood Pulp Co.	5		18		18		2	70
Riverside Steam Laundry	1		2	4	6			
Wis. Valley Leader, Publishing.	1		1	4	5			
Wood County Reporter, Publishing.	1		3	4	7			
Total	78	9	779	43	822	14	28	3,105
GRANTSBURG, BURNETT CO.								
Grantsburg Brickyard	1		20		20		1	40
Grantsburg Excelsior Mill	1		11		11		1	40
Grantsburg Roller Mills, Flour		1	5		5			
Total	2	1	36		36		2	80
GREENBAY, BROWN CO.								
Akins Steam Laundry	2		3	5	8		1	50
Allouez Mineral Spring Co., Water	2	1	12	1	13			
American Laundry	2		3	7	10		1	40
American Wood Working Machine Co.	4		70		70		1	75
Annen Candy & Biscuit Co.		2	42	58	100		1	65
Automatic File & Index Co.	2	1	7	1	8			
Badger Invalid Bed Co.	2		4		4			
Barkhausen Brick & Tile Co.	4		25	1	26		1	65
Brenner, Gazette Co., Candles.		1	20	50	70		1	40
Britton, D. W., Cooperage Co.	11		150		150	4	2	190
Burns Boiler Works	2		25	1	26		1	45
Cargill Coal Co.	6	1	77	1	78		3	450
Cargill, W. W., Co., Grain	7	2	29	1	30		3	110
C. M. & St. P. Ry., Repair shops.	17		214		214		2	300

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
GREEN BAY—Continued.								
Diamond Match Co.	1		45		45			
Dickmann Mfg. Co., Sash and doors	10		35		35		1	100
Duncan, A. M., Machine shop	2		10	1	11		1	15
Duncan Fuel Co., Coal yard	3	1	15	1	16		1	75
Ebelinge, J. H., Milling Co., Flour	6	1	20		20		2	180
Flatley Bros. Co., Coal	3		6		6		2	10
Fox River Soap Co.	3		16	4	20		2	95
Green Bay Advocate, Publishing	1		20	2	22			
Green Bay Carriage Co.	6		22		22			
Green Bay Horse Collar Co.	1		4		4			
Green Bay Cornice & Corrugated Iron Co.	4		24		24			
Green Bay Electric Light & Gas Co.	6		40		40		4	750
Green Bay Foundry & Machine Co.	6		35	1	36			
Green Bay Gazette, Publishing	1		41	12	53			
Green Bay Light & Power Co.	1		7		7		3	685
Green Bay Machine Co., Gasoline engines	2		10		10			
Green Bay Mfg. Co., Chairs	4		12		12			
Green Bay Paper & Fiber Co.	9	1	75		75		7	1,350
Green Bay Planing Mill, Sash and doors	7	1	42		42		1	125
Green Bay Pure Milk Co.	4		16		16		1	40
Green Bay Printing Co.	1		4	1	5			
Green Bay Soap Co.	3		6	1	7		1	35
Green Bay Traction Co.	7		114	1	115		3	1,000
Green Bay Water Co.	6		6		6		5	350
Green Bay & Western Ry., Repair shops	14		75		75		2	150
Hagemelster Brewing Co.	12	2	29	1	30		2	200
Handlen, J. J., Mineral water	4		6		6		1	15
Hashek, John, Church furniture	2		8		8			
Hess, G. B. Co., Flour mill	5	1	13	1	14		1	75
Hoberg, John & Co., Toilet paper	9	1	92	25	117		4	1,100
Hochgear Brewing Co.	12		12		12		2	225
Holt, M. D. Co., Medicine	1	1	4	6	10			
Holt Lumber Co., Saw mill	9		300		300		6	1,240
Hudson & Schay, Machine shop	4		8		8		1	30
Kennitz Furniture Co.	9	2	140	1	141		2	150
Kress, Frank T., Horse collars	2		5		5			
Larson Canning Co.	10		50	100	150		2	180
Manger, E. C. & Son Co., Caskets	5	1	28	2	30		1	65
Manthey, Carl, Marble works	1		10		10			
Maynard, Drachmans Co., Printing		1	28	2	30			
Milwaukee Sander Co., Sanding machines	9		90		90		1	75
Mueller Bros., Sash and doors	7		20		20		1	100
Murphy Box Co., Wooden boxes	4		70		70		2	150
Murnhy Lumber Co., Saw mill	10		140		140		6	1,900
Northern Harness & Saddle Co.	2		15	1	16			
Northern Paper mill	5		43	9	52		3	500
Northern Tissue Paper Mill	4		29	11	50		3	500
O'Leary Bros., Boilers	1		19		19		1	80
Rahr's, Henry, Sons Co., Brewing	10	3	43		43		2	285
Riemer Bros., Shoe Co.	1		25	15	40			
Rice, Vroman Co., Wooden boxes	7		100		100		3	75
Rothe, Jos. T., Foundry	3		13		13			
Salvator Mineral Spring, Mineral water	2		5		5			
Star Mills, The, Flour and feed	3	1	15	1	16		1	75
Straubel Machine Co., Machine shop	2		10		10			
Union Steam Laundry	1		2	5	7		1	40
Van Dyck Brewing Co.	11		15		15		1	75

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
GREEN BAY—Continued.								
Wainwright Glove Co.	1	.....	10	40	50	.....	.....	.....
Western Coal Co.	4	.....	9	.....	9	.....	3	225
Woelz, F. W., & Bro., Paper boxes	1	.....	3	8	11	.....	.....	.....
Total	344	25	2,791	378	3,169	13	105	12,383
GREENWOOD, CLARK CO.								
Greenwood Creamery	1	.....	1	.....	1	.....	1	16
Greenwood Glenner, Publishing	1	.....	2	1	3	.....	.....	.....
Greenwood Roller Mills, Flour.....	1	1	3	.....	3	.....	1	60
Klippenhaur, Christ., Staves and headings	2	.....	13	.....	13	1	2	110
Total	5	1	19	1	20	1	4	186
HACKLEY, VILAS CO.								
Hackley Cooperage Co.	2	.....	25	.....	25	.....	1	150
Hackley, Phelps, Bonnell Co., Lumber	3	.....	135	.....	135	1	.....	.....
Wisconsin Chemical Co., Alcohol...	2	.....	40	.....	40	.....	3	450
Total	8	.....	190	.....	190	1	4	600
HAMMOND, ST. CROIX CO.								
Hammond Creamery	1	.....	2	.....	2	.....	1	20
Total	1	.....	2	.....	2	.....	1	20
HANCOCK, WAUSHARA CO.								
Cochran, T. H. Co., Elevator	1	.....	1	.....	1	.....	.....	.....
Hancock News, Publishing	1	.....	2	1	3	.....	.....	.....
Kretzer, J. L., Machine shop	1	.....	4	.....	4	.....	1	14
Thurston, Bert, Feed mill	1	.....	1	.....	1	.....	.....	.....
White, R. H., Feed mill	1	.....	1	.....	1	.....	.....	.....
Total	5	.....	9	1	10	.....	1	14
HARTFORD, WASHINGTON CO.								
Badger Laundry	1	.....	2	2	4	.....	1	20
Bellach, C. H. Co., Clothing	1	.....	73	45	123	.....	1	90
Dietzler, T. & Co., Bottling works.	1	.....	2	.....	2	.....	1	18
Gilt Edge Creamery	1	.....	2	.....	2	.....	1	15
Grunan, J. A., Elevator	1	.....	2	.....	2	.....	.....	.....
Hartford Electric Light Co.	1	.....	1	.....	1	.....	.....	.....
Hartford Machine Co., Machine shop	1	.....	1	.....	1	.....	.....	.....
Hartford Plow Co.	4	.....	42	.....	42	.....	1	87
Hartford Press, Publishing	1	.....	2	.....	2	.....	.....	.....
Hartford Roller Mill, Flour.....	1	.....	3	.....	3	.....	.....	.....
Hartford Tannery	1	.....	2	.....	2	.....	1	20
Hartford Times, Publishing	1	.....	6	.....	6	.....	.....	.....
Hartford Waterworks	1	.....	1	.....	1	.....	.....	.....
Koward Bros. & Werner, Malt house .....	.....	1	8	.....	8	.....	2	135
Lauenstein, A. G., Malt house	1	.....	6	.....	6	.....	2	100
Place, W. B., & Co., Tannery .....	.....	1	11	1	12	.....	1	20
Portz Bros. Malt & Grain Co. ....	.....	2	6	.....	6	.....	2	110
Schwartz, Jos., & Co., Brewery	2	1	10	.....	10	.....	1	45
Urber Bros., Tannery	1	.....	12	.....	12	.....	1	80
Total	20	5	197	48	245	.....	15	723

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
HAUGEN, BARRON CO.								
Ben Lake Creamery.....	1	.....	2	.....	2	.....	1	15
Urbanck, Frank, Shingle mill.....	1	.....	4	.....	4	.....	1	12
Waller, John, Saw mill.....	1	.....	15	.....	15	.....	1	75
Total	3	.....	21	.....	21	.....	3	102
HAWTHORNE, DOUGLAS CO.								
Bonnell, W. H., Saw mill.....	2	.....	40	.....	40	.....	3	130
Duluth Logging Co., Shingle mill...	1	.....	12	.....	12	.....	1	50
Total	3	.....	52	.....	52	.....	4	230
HAYWARD, SAWYER CO.								
City Waterworks	1	.....	3	.....	3	.....	2	100
Diamond Match Co., Match blocks	1	.....	55	.....	55	13	.....	.....
Hayward Republican, Publishing...	1	.....	2	.....	2	.....	.....	.....
Hines Lumber Co.....	4	.....	300	.....	300	9	5	600
New Richmond Roller Mills, Elevator	2	.....	3	.....	3	.....	1	50
Sawyer County Record, Publishing	1	.....	3	.....	3	.....	.....	.....
Total	10	.....	426	.....	426	27	8	750
HAZELGREEN, GRANT CO.								
Big Dad Mining Co.....	1	.....	5	.....	5	.....	1	45
Hazelgreen Mining Co.....	1	.....	51	.....	51	.....	2	200
Kennedy Mining Co.....	1	.....	46	.....	46	.....	4	225
Little Dad Mining Co.....	1	.....	5	.....	5	.....	1	40
Miller Mining & Reduction Co.....	1	.....	57	.....	57	.....	3	450
Murphy Mining Co.....	1	.....	40	.....	40	.....	3	325
Square Deal Mining Co.....	1	.....	52	.....	52	.....	4	320
Total	7	.....	256	.....	256	.....	13	1,555
HAZELHURST, ONEIDA CO.								
Yawkee-Bissell Lumber Co., Saw mill	15	.....	193	.....	193	2	5	350
Total	15	.....	193	.....	193	2	5	670
HEINEMAN, LINCOLN CO.								
Heineman Lumber Co.....	7	.....	125	.....	125	.....	5	425
Total	7	.....	125	.....	125	.....	5	425
HIGHLAND, IOWA CO.								
Highland Mining Co.....	5	.....	46	.....	46	.....	2	250
Highland Weekly Press, Publishing	1	.....	2	2	4	.....	.....	.....
Leonard & Push Brewing Co.....	3	1	8	.....	9	.....	2	110
Total	9	1	56	2	58	.....	4	360

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
HILBERT, CALUMET CO.								
Cargill, W. W., Co., Elevator.....	1	.....	1	.....	1	.....	.....	.....
Hilbert Cheese Box Co.....	3	.....	15	.....	15	.....	1	75
Hilbert Gasoline Light Co.....	1	.....	1	.....	1	.....	.....	.....
National Cabinet Co., Meat blocks..	3	.....	4	.....	4	.....	1	100
Wisconsin Malt & Grain Co., Elevator	1	.....	1	.....	1	.....	.....	.....
Total	9	.....	22	.....	22	.....	2	175
HILES, FOREST CO.								
Foster—Whitman Lumber Co.	3	.....	90	.....	90	.....	5	450
Total	3	.....	90	.....	90	.....	5	450
HILLSBORO, VERNON CO.								
Hillsboro Brewery	3	.....	1	.....	1	.....	1	40
Hillsboro Creamery	1	.....	2	.....	2	.....	1	40
Hillsboro Handle Works, Broom-handles	1	.....	11	.....	11	.....	1	00
Hillsboro Milling Co., Grist	1	1	5	1	6	.....	1	50
Hillsboro Sentry-Enterprise, Publishing	1	.....	2	.....	2	.....	.....	.....
Lind Lumber Co., Planing mill.....	2	.....	2	.....	2	.....	1	60
Total	9	1	23	1	24	.....	5	250
HORICON, DODGE CO.								
Firehammer, S. Co., Woodwork ...	1	.....	14	.....	14	.....	1	30
Horicon Gas Plant	1	.....	1	.....	1	.....	.....	.....
Horicon Laundry	1	.....	1	1	2	.....	1	8
Horicon Reporter, Publishing	1	.....	2	.....	2	.....	.....	.....
Horicon Wagon Works	2	.....	8	.....	8	.....	.....	.....
Horicon Windmill Co.	1	.....	3	.....	3	.....	.....	.....
Van Brunt Mfg. Co., Farm implements	5	.....	225	.....	225	.....	2	100
Total	12	.....	254	1	255	.....	4	128
HORLICKSVILLE, RACINE CO.								
Fox Lime & Stone Co.	1	.....	25	.....	25	.....	2	100
Horlick, J. A., Feed mill	1	.....	2	.....	2	.....	.....	.....
Horlick Stone & Lime Co.	1	.....	75	.....	75	.....	1	80
Total	3	.....	102	.....	102	.....	3	180
HORTONVILLE, OUTAGAMIE CO.								
Buchman Bros., Flour and feed ...	4	1	3	.....	3	.....	1	35
Dabareiner, L. & Co., Creamery....	2	.....	2	.....	2	.....	1	20
Diester Co., The, Lumber	5	1	10	.....	10	.....	1	35
Diester Co. Ltd., The, Planing mill	2	.....	5	.....	5	.....	1	35
Hortonville Brewing Co.	4	1	3	.....	3	.....	1	25
Hortonville Creamery	1	.....	2	.....	2	.....	1	60
Hortonville Review, Publishing	1	.....	2	.....	2	.....	.....	.....
Weiss, Albert, Cabinet work	1	.....	1	.....	1	.....	1	5
Total	20	3	28	.....	28	.....	7	315

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
HOULTON, ST. CROIX CO.								
East Side Lumber Co.	7		250		250		4	500
Total	7		250		250		4	500
HOWARDS GROVE, SHEBOYGAN CO.								
Frame, R. L., Mfg. Co., Cheese boxes	4		18		18		1	80
Total	4		18		18		1	80
HUDSON, ST. CROIX Co.								
Anderson Lumber Co.	3		18		18			
Cassanova Brewing Co.	2	1	6		6		1	30
Central Lumber Co., Saw mill.	1		150	1	151		6	250
Hudson Bottling Works	1		2		2			
Hudson Star-Times, Publishing	1		3	2	5			
Omaha Ry. Co., Repair shop	6		300		300		4	400
St. Croix Observer	1		3	1	4			
Total	15	1	482	4	486		10	670
HURLEY, IRON CO.								
Germania Mine	1		50		50		1	5
Lambert, M., Boiler shop	1		4		4			
Twin City Iron Mines	2		6		8			
Total	4		62		62		1	5
INDEPENDENCE, TREMPER-LEAU CO.								
Cargill, W. W. Co., Elevator		1	1		1			
Cooke, L. P., Sleds	1		2		2		1	8
Independence Co-op. Creamery Co.	1		1		1		1	10
Independence Roller Mill, Flour		1	4		4			
Liver & Forgeson, Elevator	1		1		1			
Sprecher, John, Elevator	3		1		1			
Total	6	2	10		10		2	18
IOLA, WAUPACA CO.								
Frogner Bros., Planing Mill	1		4		4		2	70
Iola Creamery Ass'n	1		2		2			
Iola Ideal Laundry	1		2	2	4			
Wipf, J. & Co., Flour		1	4		4		1	75
Total	3	1	12	2	14		3	145
IRON RIVER, BAYFIELD CO.								
Iron River Creamery	1		2		2		1	25
Iron River Water, Light and Power Co.	1		2		2		2	150
Iron River Lumber Co.	4		250		250	4	6	400
Iron River Pioneer, Publishing	1		2		2			
Valley Lumber Co., Saw mill	1		25		25		1	30
Total	9		251		251	4	10	655

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
IRVINGTON, DUNN CO.								
Coffins Box & Lumber Co., Boxes, baskets, etc.	6	.....	100	.....	100	4	3	140
Total	6	.....	100	.....	100	4	3	140
ITASKA, DOUGLAS CO.								
C., St. P., M. & O. Ry. Co., Car shops	7	1	50	.....	50	.....	3	225
Nye-Jenks Grain Co., Elevator	3	.....	130	.....	130	.....	4	1,200
Total	10	1	180	.....	180	.....	7	1,425
JANESVILLE, ROCK CO.								
Badger State Machine Co., Machinery	1	.....	11	.....	11	.....	.....	.....
Baines, F. L., Tobacco warehouse.	1	.....	64	.....	64	1	.....	.....
Bassett & Echlin, Harnesses	1	.....	30	8	33	.....	.....	.....
Bicknell Hardware Co.	1	.....	7	.....	7	.....	.....	.....
Blodgett Milling Co., Flour mill....	2	2	15	2	17	.....	3	255
Buob, M., Brewery	6	.....	5	.....	5	.....	1	80
Carle, L. B., Tobacco warehouse....	1	.....	10	50	60	.....	.....	.....
C. M. & St. P. Ry., Repair shop....	2	.....	13	.....	13	.....	1	50
C. & N. W. Ry., Repair shop	4	.....	49	.....	49	.....	1	100
Choate, Hollister Co., Furniture	3	.....	53	1	53	.....	2	8
Clinton, W. E. & Co., Bookbinding .....	.....	1	3	4	7	.....	.....	.....
Cronk Brewing Co.	3	1	6	.....	6	.....	2	90
Doty, E. P., Flour .....	.....	1	5	.....	5	.....	.....	.....
Erler, R. L., Tobacco	1	.....	3	19	22	.....	.....	.....
Fifield Bros., Tobacco cases	3	.....	6	.....	6	.....	.....	.....
Fisher & Fisher, Tobacco	1	.....	10	16	26	1	.....	.....
Fitchett & Grove, Printing .....	.....	1	2	.....	2	.....	.....	.....
Friedman, J. & Co., Tobacco	1	.....	2	5	7	1	.....	.....
Gazette Printing Co. ....	.....	1	32	3	35	2	.....	.....
Green, M. F. & Sons, Tobacco .....	.....	1	8	40	48	.....	.....	.....
Grundy Bros., Tobacco	1	.....	3	15	18	.....	.....	.....
Hanson Furniture Co.	3	1	30	.....	30	.....	1	80
Heddles, L. B., Tobacco	1	.....	14	11	25	1	.....	.....
Heller & Burgess, Repair shop	1	.....	3	.....	3	.....	.....	.....
Hemming, Wm. & Son, Ale brewery	1	.....	9	.....	9	.....	1	10
Hohenadel & Co., Pickles	4	1	100	75	175	.....	3	255
Hough Porch Shade Co.	5	.....	36	30	66	6	1	80
Independent, The, Publishing	1	.....	1	.....	1	.....	.....	.....
Janesville Barbed Wire Co.	4	.....	55	.....	55	.....	1	150
Janesville Batting Co., Cotton batting	3	.....	4	1	5	.....	.....	.....
Janesville Carriage Works	2	1	20	.....	20	.....	.....	.....
Janesville Cement Post Co.	2	.....	4	.....	4	.....	1	150
Janesville Clothing Co., Overalls and shirts	1	.....	8	40	48	.....	.....	.....
Janesville Electric Co., Light and power	2	.....	15	.....	15	.....	1	200
Janesville Journal, Publishing	1	.....	1	1	2	.....	.....	.....
Janesville Machine Co., Farm implements	18	3	225	.....	225	1	3	460
Janesville Pearl Button Co.	1	.....	12	15	28	.....	.....	.....
Janesville Plating Works .....	.....	1	2	.....	2	.....	.....	.....
Janesville Sash & Door Co.	4	1	83	2	85	.....	1	100
Janesville Steam Laundry .....	.....	1	4	10	20	.....	1	60
Janesville Waterworks	2	.....	3	.....	3	.....	3	375
Jones, A. W., Tobacco	1	.....	20	32	52	.....	.....	.....
Kent Corn Planter Works	5	.....	15	.....	15	.....	1	40
Kimberly, E. O., Printing	1	.....	1	.....	1	.....	.....	.....
Lewis Knitting Co., Underwear	2	.....	8	112	120	.....	.....	.....
McGee, A. B., Tobacco	1	.....	6	10	16	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.			Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No. Total b. p.
JANESVILLE—Continued.							
McGiffin & Fifield, Tobacco	1		16	48	64	2	
Marquess, Julius, Tobacco	1		26	71	97	2	
Marzluff, F. M. Co., Shoes	1	1	60	30	90	5	
Milwaukee Elevator Co.	1		1		1		
Mouat, Frank, Tobacco	1		7	28	35	1	
New-Doty Mfg. Co., Punching machines	8		20	1	21		
New Gas Light Co.	2		4		4		2
Northern Grain Co., Feed mill	1		2		2		
Parker, W. H., Printing		1	1		1		
Parker Fountain Pen Co.		1	25	11	36		
Randall & Athorn, Machine shop	1		2		2		
Recorder Printing Co.	1		11	1	12		
Riverside Steam Laundry	1	1	4	8	12		1
Robinson Brewing Co., Ale and porter	3		5		5		
Rock County Mineral Water Co.	1		2		2		
Rock County Beet Sugar Co.	6	3	250		250		8
Rock River Cotton Co., Yarn, batting, etc.		1	65	25	90	1	2
Rock River Hay Tool Co.	1		4	1	5		
Rock River Machine Co., Shears, punches, etc.	3	1	20		20		1
Rock River Woolen Mills	4		56	24	80		2
Rumrill, J. H., Tobacco	1		10	20	30		
Ryan, J., Tobacco	1		2	9	11	5	
Sanford & Soverhill, Tobacco	1		15	35	50	3	
Shurtleff Co., Butter and ice cream	1		2		2		
Sohlman, John, Tobacco	1		8	25	33		1
Tunberg, Geo. E., Printing		1	1		1		
Taylor & Lowell, Wire fencing	1		6		6		
Thayer, J. M., Tobacco	1		2	16	18	1	
Thorogood & Co., Cigar boxes	6	1	26	24	50	5	1
Troy Steam Laundry	1		5	5	10		1
Tuckwood Machine Co., Windmills, tanks, etc.	1		2		2		
Welsh, T. E., Tobacco	1		7	24	31		
Western Shoe Co.	2		31	14	45	1	
Williamson Fountain Pen Co.	1		3	1	4		
Wisconsin Carriage Co.	2	1	29	3	32		1
Total	156	29	1,734	927	2,661	30	45
JEFFERSON, JEFFERSON CO.							
Ambrose, F. O., Repair shop	1		5		5		
City Brewery	1	4	22	4	26		2
Copeland-Ryder Shoe Co.	3	1	95	30	125	2	2
Crown Bottling Works, Bottling seltzer	1		3		3		
Fromholz Lumber Co., Sash and doors	2		20		20		1
Helmerl Hide & Leather Co., Tannery	3		10		10		1
Jefferson Brewing & Malting Co.	1	1	4		4		1
Jefferson Brick & Tile Co.	7		35		35		1
Jefferson City Light Co.	3		3		3		2
Jefferson Flour Mill Co.	1	1	3		3		
Jefferson Steam Laundry	1		2	3	5		1
Jefferson Woolen Mill, Carding wool	2	1	1		1		
John & Beck Shoe Co.	1		21	5	26		
Kennmeter Co., The, Brick	3		14		14		1
Rock Valley Creamery	2		2		2		1

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
JEFFERSON—Continued.								
Stoppenbach's Sons Co., Packing...	5	1	30	.....	30	.....	1	80
Moon Upholstering Co.	1	.....	4	.....	4	.....	.....	.....
Vaughan, O. C. Mfg. Co., Farm im- plements	8	.....	20	1	21	.....	1	80
Wisconsin Mfg. Co., Chairs	2	1	41	4	45	.....	1	100
Total	48	10	335	47	382	2	16	1,033
JEFFERSON JC., JEFFERSON CO.								
Lytle- Stoppenbach Co., Malt house	2	4	12	.....	12	.....	2	250
Total	2	4	12	.....	12	.....	2	250
JOHNSON CREEK, JEFFERSON CO.								
Grell, H. J., Co., Creamery	2	.....	5	1	6	.....	1	20
Kottke-Warnes Co., Wagons	1	.....	4	.....	4	.....	.....	.....
Mansfield, Geo. C. Co., Creamery..	1	1	3	.....	3	.....	2	40
Pitzne-Huebner, Feed mill	2	.....	2	.....	2	.....	1	40
Total	6	1	14	1	15	.....	4	100
JUNEAU, DODGE CO.								
City Roller Mills, Flour	2	.....	4	.....	4	.....	1	100
Independent, The, Publishing	1	.....	2	.....	2	.....	.....	.....
Juneau Boiler Works	2	.....	2	.....	2	.....	1	8
Juneau Creamery	1	.....	1	.....	1	.....	1	20
Lytle-Stoppenbach Co., Elevator...	1	.....	1	.....	1	.....	.....	.....
Peters, P., Furniture Mfg. Co.	4	.....	28	4	32	.....	1	80
Reul, John F., Boxes	1	.....	4	.....	4	1	1	16
Telephone, The, Publishing	1	.....	2	.....	2	.....	.....	.....
Total	13	.....	44	4	48	1	5	224
KAUKAUNA, OUTAGAMIE CO.								
Chicago & Northwestern Ry. Co., Shops	7	.....	430	.....	400	.....	3	250
Cornell & Ward, Paper	1	.....	11	5	16	.....	.....	.....
Domestic Laundry Co.	1	.....	3	2	5	.....	.....	.....
Holthe Machine Co., Machine shop	1	.....	3	.....	3	.....	.....	.....
Kaukauna Electric Light Co.	1	.....	2	.....	2	.....	2	145
Kaukauna Fibre Co.	1	.....	70	.....	70	.....	3	500
Kaukauna Lumber & Mfg. Co., Planing mill	4	.....	3	1	9	.....	.....	.....
Kaukauna Machine Works, Machine shop	1	.....	9	1	10	.....	1	30
Kaukauna Steam Laundry	1	.....	4	2	6	.....	1	15
Kaukauna Sun, Publishers	1	.....	3	2	5	.....	.....	.....
Kaukauna Times, Publishers	1	.....	5	3	8	.....	.....	.....
Kaukauna Water Works	1	.....	1	.....	1	.....	2	320
Lindauer Pulp Co., The	1	.....	30	.....	30	.....	.....	.....
Outagamie Paper Co.	2	1	90	32	112	.....	2	180
Thilmany Paper & Pulp Co.	3	.....	101	19	120	.....	3	350
Union Bag & Paper Co.	1	1	40	110	150	.....	3	400
Total	25	2	770	177	947	.....	20	2,107

TABLE 1—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees				Boilers.	
	Under 3 stories	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
KEMPSTER, LANGLADE CO.								
Borth, Fred, Finishing lumber.....	4		44		44		2	100
Meyer & Borth, Saw mill	2		45		45		3	195
Total	6		89		89		5	295
KENDALLS, MONROE CO.								
Canney, W. S., Feed mill	1		1		1			
Chicago & Northwestern Ry. Co., Roundhouse	1		4		4		1	80
Kendalls Creamery	2		1		1			
Kendalls Keystone, Publisher	1		1		1			
Total	5		7		7		2	100
KENOSHA, KENOSHA CO.								
Allen's Sons, N. R., Tannery.....	7	5	853		853		14	2,100
American Steam Laundry	1		5	9	14	4	1	30
Arnesen & Konsek, Foundry	4		10		10			
Arnold, G. A., Gasoline engines....	1		3		3			
Badger Bros Mfg. Co., Auto. lamps	10		174	18	192	8	1	175
Bain Wagon Co.	22		400		400	7	3	330
Baldwin Coal Co., Geo. S.	1		4		4		1	40
Bee Hive Fly Catcher Co.	1		18		18			
Borstad, Emil, Repair shop	1		3		3			
Burnett & Meyers, Fishermen	1		10		10			
Chicago Brass Co., Sheet brass	12		339	2	341		9	1,350
Chicago—Kenosha Hosiery Co.	12	1	245	721	966	353	5	1,364
Cooper Underwear Co.	2		50	56	106	33		
Crancy, Spaulding Brick Co.	1		16		16		2	35
Davy Burnt Clay Ballast Co.	6		3		3		1	60
Eagle Steam Laundry Co.	1		3	7	10		1	20
Fisher Coal Co., Peter J.	1		9		9		1	60
Frost Mfg. Co., Plumbers' supplies	4		80	5	95	3	1	80
Grant Planing Mill	1		14		14		1	80
Gross & Nelsgard, Planing mill	1		18		18			
Hausmann, Louis, Printer		1	1		1			
Harriman & Son, Vises	1		6		6			
Jeffrey & Co., Thos. B., Automobiles	19		675		675	8	6	900
Kenosha Cement Co., Cement blocks	1		12		12			
Kenosha Crib Co., Furniture	5		140		140	4	2	300
Kenosha Evening News, Publishers	1		14	1	15			
Kenosha Gas & Electric Light Co.	7		5		5		2	90
Kenosha Gas & Light Co., Electric railway	2		9		9		3	600
Kenosha Laundry	1		2	9	11	1	1	35
Kenosha Machine Shop	1		5		5			
Kenosha Sash & Door Co.	9		14		14	1	1	40
Kenosha Union, The, Publishers		1	2	1	3			
Kenosha Volksfreund, Publishers ..	1		2		2			
Kenosha Water Co.	8		4		4		3	150
Koas & Co., N. H., Rendering.....	2		7		7		1	20
Kribs, Chas., Repair shop	1		1		1			
Model Steam Laundry	1		3	7	10	1	1	30
Modern Mfg. Co., Infants' shoes ..	1		3		3			
Meisselbach Typewriter Co.	11		110		110		4	430
O'Donnell Coal Co.	1		8		8		1	50
Paris Creamery Co.	1		3		3		1	30

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
KENOSHA—Continued.								
Pettit Malt Co., M. H.	1	1	16	.....	16	.....	2	130
Pierce & Co., Peter, Fire apparatus	1	.....	6	.....	6	.....	.....	.....
Piersch, Nicholas, Carriages	5	.....	12	.....	12	.....	.....	.....
Piersch, Peter, Wagons	1	.....	5	.....	5	.....	.....	.....
Priddy Cement Co., John, Side-walks	.....	.....	7	.....	7	.....	.....	.....
Remer Laundry Co.	1	.....	2	7	9	.....	1	25
Simmons Mfg. Co., The, Iron beds	9	9	1,200	300	1,500	60	13	1,300
Stembach, John, Sidewalks	.....	.....	7	.....	7	.....	.....	.....
Visible Typewriter Co.	3	.....	160	.....	160	12	4	400
Wells, Frank, Machine shop	1	.....	80	.....	80	.....	1	80
Whitaker, T. B., Tools and repairs	1	.....	2	.....	2	.....	.....	.....
Windsor Spring Co., Bed springs	8	.....	120	5	125	.....	1	150
Winter Sash & Door Co.	1	.....	16	.....	16	.....	.....	.....
Total	200	18	4,863	1,148	6,011	495	88	10,270
KEWASKUM, WASHINGTON CO.								
Kewaskum Flour Mill	1	1	2	.....	2	.....	.....	.....
Rommel, Nicholas, Machine shop	1	.....	3	.....	3	.....	.....	.....
Rosenheimer Malt & Grain Co.	3	2	12	.....	12	.....	2	200
Total	5	2	17	.....	17	.....	2	200
KEWAUNEE, KEWAUNEE CO.								
Aluminum Sign Co., Novelties	2	.....	19	6	16	.....	1	45
Borgman, J. M., Planing mill	6	.....	8	.....	8	.....	1	5
Hamachek, Frank, Feed cutters	3	.....	12	.....	12	.....	1	40
Kewaunee Brewing Co.	5	.....	7	.....	7	.....	1	30
Kewaunee Canning Co.	7	1	117	35	152	8	1	125
Kewaunee Casket Co.	4	1	24	6	30	.....	2	120
Kewaunee Enterprise, Publishing	1	.....	4	2	6	.....	.....	.....
Kewaunee Grain Co., Elevator	.....	1	8	.....	3	.....	.....	.....
Kewaunee Iron Works, Machine shop	2	.....	4	.....	4	.....	.....	.....
Kewaunee Listy, Publishers	1	.....	2	2	4	.....	.....	.....
Pilsner Brewing Co.	4	.....	5	.....	5	.....	1	80
Seyk, W. Co., Canning	3	1	55	21	76	10	2	200
Svoboda, Joe, Furniture	3	.....	9	.....	9	.....	1	20
Zimmer, August, Foundry	1	.....	5	.....	5	.....	.....	.....
Total	42	4	265	73	337	13	11	615
KIEL, MANITOWOC CO.								
Holdensterner, S., Elevator	1	.....	2	.....	2	.....	.....	.....
Kiel Milling Co., Flour mill	2	1	4	.....	4	.....	.....	.....
Kiel Grain & Milling Co., Flour mill	3	1	5	.....	5	.....	1	75
Kiel Mfg Co., Tables	5	2	75	1	76	.....	2	200
Kiel National Zeitung, Publishers	1	.....	3	.....	3	.....	.....	.....
Kiel Water Works	1	.....	3	.....	3	.....	.....	.....
Kiel Wooden Ware Co., Cheese boxes	9	.....	82	.....	82	6	2	300
Richards, J. F., Machine shop	1	.....	2	.....	2	.....	.....	.....
Ventlin & Gisch, Machine shop	1	.....	2	.....	2	.....	.....	.....
Total	24	4	178	1	179	6	3	475

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
KILBOURN, COLUMBIA CO.								
City Water Works	1		2		2		2	160
Bells Reporter, The, Publishers.....	1		1	1	2			
Kilbourn Machine Co., Machine shop	1		2		2			
Marshall, G. M., Repairing	1		1		1			
Mirror-Gazette, Publishing	1		2		2			
York & Co., J. W., Elevator and mill	4	1	5	1	6			
Total	9	1	13	2	15		2	160
KIMBERLY, OUTAGAMIE CO.								
Kimberly, Clark Co., Paper and pulp	4	1	225		225		3	300
Total	4	1	225		225		3	300
LAC DU FLAMBEAU, VILAS CO.								
Flambeau Lumber Co., Saw mill ..	9		156		256		7	700
Total	9		256		256		7	700
LA CROSSE, LA CROSSE CO.								
Advance Bedding Co., Mattresses.....		1	14	3	17			
Argus, The, Publishing	1		2		2			
Art Glass Co., The	1		9		9			
Badger Steel Roofing Co.	1		5		5			
Barth, Franz Brewing Co.	6	1	12		12		1	50
Benton & Sons, Thos. F., Gasoline engines		1	14		14			
Blinston, W. H., Contractor	1		4		4			
Cargill & Co., W. W., Elevator I.	1	1	2		2			
Cargill & Co., W. W., Elevator II.	1	1	7		7		1	80
Chicago, Burlington & Quincy R. R., Shops	20		135		135		2	100
Chicago, Milw. & St. Paul R. R., Roundhouse	8		95		95		2	220
City Plow Works	2		2		2		1	90
City Water Works	1		6		6		3	573
Ceasby Granite Co., C. J., Monuments	1		10		10			
Close, Chas. F., Gasoline engines.....	1		3		3			
Colman Lumber Co., C. L., Planing mill	7		72		72		1	125
Dagendesh, Geo., Building stone ..	2		6		6		1	40
Davis, Medary & Platz, Tannery.....	6	1	84		84		5	290
Doud Sons & Co., Flour barrels.....	5		13		12		1	40
Egan Mfg. Co., Potato machinery.....	1		6		6			
Franklin Iron Works, Machinists.....	1		4		4			
Funke Co., J. B., Confectionery.....		1	35	115	150	9	1	65
Gardner Printing Co., Printing.....		1	12	1	13	2		
Gateway City Cooperage Co., Kegs.....	2		11		11			
Gateway City Pearl Button Co.....	1		25		25			
Gateway City Steel T. & R. Co., Sheet metal	2		12		12	1		
Grans & Sons, A., Grist mill.....	1	1	5		5			
Grauke, Otto, Crates.....	1		4	1	5			
Gund Brewing Co., John.....	17	3	213	30	243	12	4	500

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
LA CROSSE—Continued.								
Hackner, Egid, Church furniture...	5		50		50	3		
Haerter, Nic, Book binding.....	1		3	1	4			
Hellman Brewing Co.....	14	3	90	10	100	3	3	240
Harker, George, Trunks.....	1		4		4			
Herman, Thos., Tailor.....	1		6		6			
Hyde, S. Y., Elevator.....	1	1	6		6		1	83
Hynne-Bernard Granite Co., Monu- ments	1		7		7			
Ice Cream & Butter Co., The.....	1		7		7		1	10
James, Alfred, Foundry.....	7		41		41	2	1	40
Kabat, Joe, Cooper.....	1		5		5			
Keller, G. A., Printing.....	1		4		4			
Knothe, Printing	1		1		1			
Kratchevil, M., Confectioner.....		1	13	19	32			
Kuhn Sash & Door Co.....	5	2	87		87	7	2	250
La Crosse Boiler Works.....	2		10		10			
La Crosse Boot & Shoe Co.....		1	30	9	39			
La Crosse Bottling Works, Soda water	2		6		6			
La Crosse Box Co.....	3		13		13		1	50
La Crosse Can Co., Tin cans	1	1	165	5	170	29		
La Crosse Carriage Co., Carriages.....		2	24	2	26			
La Crosse City Railway Co.....	2		70		70		4	620
La Crosse City Water Works.....	1		6		6		3	555
La Crosse Clothing Co., Overalls and shirts	1	1	18	52	70			
La Crosse Cooperage Co., Kegs.....	3		31		31		1	100
La Crosse Cornice & Ceiling Co.....	1		8		8			
La Crosse Cracker & Candy Co.....		1	37	79	116	29	1	30
La Crosse Engraving Co.....		1	18		18			
La Crosse Gas & Electric Co.....	6		18		18		3	103
La Crosse Hammock Works.....	1		8	8	16			
La Crosse Knitting Works, Hosiery.....	1	1	20	96	106	23	1	83
La Crosse Paper Box Co.....	1		4		10	1		
La Crosse Monument Works.....	1		9		9			
La Crosse Plow Co., Agricultural machinery	13	5	222	3	225	6	2	330
La Crosse Press Co., Publishing....	1		30	3	33			
La Crosse Rubber Mills Co., Rub- ber clothing	9		34	85	119		2	290
La Crosse Rug Co., Rugs.....	1		12		12	2		
La Crosse Soap Co.....	2		3		3		1	30
La Crosse Steam Laundry.....	3		12	48	60		1	80
La Crosse Steel Bridge Works.....	1		9		9			
La Crosse Corrugating Co., Roofing.....	2		12		12			
La Crosse Threshing Machine Co.....	3		33		32		1	60
La Crosse Tribune, Publishing.....	1		12	2	14			
La Crosse Volksfreund Co., Pub- lishing	1		5		5			
La Crosse Well Drill Works, Well tools	1		5		5		1	12
La Crosse Wool & Fur Co.....	1		5		5			
Langdon & Boyd, Meat packers.....	3		31		31		2	110
Leona Garment Co., Clothing.....		1	1	8	9			
Liesenfeld, A. A., Printing.....	1		8	5	13			
Listman Mill Co., Flour.....	5	2	69	7	76		4	500
Litho Paint Sign Co., Signs.....		1	9		9		1	80
Martin Bros. Co., Clothing		1	12	50	62	2		
Medary Saddlery Co.....		1	25	3	28			
Mitchell Brewing Co.....	14	3	72	3	75	1	3	300
Miller, August, Brooms.....	2		20		20			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
LA CROSSE—Continued.								
Modern Steam Laundry.....	1	1	7	23	30	.....	1	40
Monitor Brewing Co.....	4	1	4	.....	.....	.....	1	35
Moore's Hand Laundry.....	1	.....	2	6	8	.....	1	10
Nordstern Ass'n, The, Publishing..	1	.....	6	8	8	.....	.....	.....
North American Telegraph Co.....	1	.....	8	.....	8	.....	.....	.....
Northern Wis. Leaf Tobacco Co.....	.....	1	15	74	89	8	.....	.....
North Side Bottling Works, Soda water	1	.....	12	.....	12	.....	1	15
Onalaska Woolen Mills, Hosiery....	1	.....	2	15	17	.....	.....	.....
Ott & Sons, B., Machinists.....	5	.....	3	.....	8	.....	.....	.....
Pacific Electric Co., Electric signs..	.....	1	5	1	6	.....	.....	.....
Pamperin Leaf Tobacco Co.....	1	.....	8	45	53	4	.....	.....
Pein, A. H., Sash and doors.....	3	.....	9	.....	2	.....	.....	.....
Peterson & Son, Gasoline engines....	1	.....	2	.....	2	.....	.....	.....
Pierce Stevenson Elevator Co.....	1	1	8	.....	8	.....	1	80
Reimers, D., Meat packing.....	3	.....	10	.....	10	.....	.....	.....
Reliable Pearl Button Co.....	1	.....	8	.....	8	.....	.....	.....
Reliable Steam Laundry.....	1	.....	11	34	45	.....	1	40
Riverside Box Co., Boxes and crates	2	.....	10	.....	10	1	1	75
Salzer, John A., Seeds.....	4	1	50	96	155	2	.....	.....
Scherz-Wiltz Printing Co.....	.....	1	13	4	16	.....	.....	.....
Schulz, Fred A., Sash and doors....	3	.....	3	.....	3	.....	.....	.....
Segelko & Kohlhaus Co., Sash and doors	8	5	148	2	150	7	5	400
Shorna, Chas., Furrler.....	1	.....	1	4	5	.....	.....	.....
Sidensoe, Theo., Tools.....	1	.....	1	.....	1	.....	.....	.....
Smith Mfg. Co., Wagons.....	8	.....	61	.....	61	.....	2	100
Sorenson, O. J., Fixtures.....	2	.....	39	1	40	.....	.....	.....
Spicer & Buschman, Printing.....	1	.....	8	.....	8	.....	.....	.....
Staats & Co., E. G., Lodge supplies	1	.....	1	6	7	.....	.....	.....
Stamping & Tool Co., Dies and novelties	1	.....	25	2	27	.....	.....	.....
Starch Bros., Cream separators.....	1	.....	12	.....	12	.....	.....	.....
Star Knitting Co., Gloves and mittens .....	.....	1	1	21	22	3	.....	.....
Summit Foundry Co., Stoves and furnaces	8	.....	53	.....	53	.....	1	100
Tisch Bros., Cigar boxes.....	.....	1	8	13	21	.....	1	60
Torrence & Son, John, Foundry....	6	.....	17	.....	17	.....	.....	.....
Trepte, B., Ornamental iron.....	1	.....	6	.....	6	2	.....	.....
Troer & Co., A. S., Plaining mill...	11	.....	25	.....	25	.....	5	230
Valyu Garment Co., Ladies' garments .....	.....	1	20	60	80	.....	.....	.....
Vlastenic, Publishing.....	1	.....	3	1	4	.....	.....	.....
Voigt Estate, F., Wagons.....	1	1	22	.....	22	.....	.....	.....
Voigt Berger Co., Switchboards....	5	.....	95	13	108	8	.....	.....
Wallace & Ryder, Gristmill.....	1	.....	3	.....	3	.....	.....	.....
Western Banana Crate Co.....	1	.....	10	4	14	.....	.....	.....
Western Hammock Co.....	1	.....	8	7	15	.....	.....	.....
Western Tobacco Works, Smoking tobacco	1	.....	8	25	33	.....	.....	.....
Western Union Telegraph Co.....	.....	1	11	2	13	.....	.....	.....
Wisconsin Electric Light Co.....	2	.....	6	.....	6	.....	3	900
Wisconsin Pearl Button Co.....	1	.....	35	25	60	2	.....	.....
Wolff & Sieloff, Blank books.....	1	.....	2	.....	2	.....	.....	.....
Yeo & Clark Co., Flour mill.....	1	1	5	.....	5	.....	1	50
Total	325	59	3,164	1,131	4,295	168	88	9,307

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
LADYSMITH, RUSK CO.								
Alden Novelty Co.....	2		8		8		1	50
Bell, M. O., Saw and planing mill..	1		10		10		1	60
City Waterworks.....	1		2		2		1	25
Cleveland, W. H., Box factory.....	1		3		3		1	30
Corbett, B., Lumber Co., Saw mill	2		30		30		1	75
Journal, The, Publishing.....	1		2	1	3			
Ladysmith Electric Light & Power Co.....	1		1		1		1	100
Masler, D. H., Wagons.....	1		3		3		1	10
Menasha Paper Co.....	5		110		110		2	700
Menasha Woodenware Co.....	6		75		75	2	2	300
News, The, Publishing.....	1		2	1	3			
Weekly Budget, Publishing.....	1		3	1	4			
Total	23		249	3	252	2	11	1,350
LAKE GENEVA, WALWORTH CO.								
American Laundry.....	1		4	2	6			
Borden's Condensed Milk Co.....	2		16		16		1	40
Burton, Denison & Davidson, Feed mill	1		4		4			
Chicago Steam Laundry.....	1		2	3	5		1	20
Cleghorn Bros., Machine shop.....	1		2		2			
Cornell Bros., Creamery.....	1		7		7		1	15
Fountable Electric Light Co.....	1		6		6		2	160
Gill, W. P., Repair shop.....	1		3		3			
Host Bros. Packing Co., Meat pack- ing	1		3		3		1	40
Lake Geneva Creamery.....	2		9		9		1	15
Lake Geneva Herald, Publishing....	1		3		3			
Lake Geneva Mfg. Co., Piano stools	1	1	56		56		2	125
Lake Geneva News, Publishing....	1		3	2	5			
Lake Geneva Water & Light Co.....	1		3		3		2	240
Total	16	1	121	7	128		11	655
LAKE MILLS, JEFFERSON CO.								
Douglas, H. L., Flour and feed.....		1	1		1			
Fargo Creamery Supply Co.....	4		95	1	96			
Lake Mills Laundry.....	1		2	1	3		1	8
Lake Mills Lander, Publishing....	1		5		5			
Myers, Wm. F., Printing.....	1		1		1			
Seaver, F. L., Cutlery.....	1		1		1			
Total	8	1	105	2	107		1	8
LAKE NEBAGAMON, DOUGLAS CO.								
H. V. & S. H. Co., Repair shop	3		10		10			
Nebagamon Lumber Co., Saw mill.	5		390		390	14	5	750
Total	8		370		370	14	5	750

TABLE I—ESTABLISHMENTS INSPECTED--Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
LANCASTER, GRANT CO.								
Grant County Herald, Publishing.	1		3	2	5			
Lancaster Roller Mills, Flour and feed	2	1	3		3		1	80
Lancaster Electric Light Co.	3		3		3		2	200
Lancaster Planing Mill.	2		3		3			
McDonald, Thos., Bridges.	1		3		3			
Rough Rider Mfg. Co., Overalls and shirts	1		3	20	23		1	13
Schuster Bros., Feed mill.	1		3		3			
Teller, The, Publishing.	1		4	2	6			
Total	12	1	25	24	49		4	222
LAONA, FOREST CO.								
Connor Lumber Co.	10		300		300	2	4	600
Total	10		300		300	2	4	600
LITTLE CHUTE, OUTAGAMIE CO.								
Little Chute Pulp Co.	2		72		72			
Zuland Roller Mills, Flour.	1		1		1			
Total	3		73		73			
LITTLE FALLS, POLK CO.								
Little Falls Creamery	2		2		2		1	16
Little Falls Flour Mill.		1	3		3			
Winger Bros., Carding wool.	2		12	4	16			
Total	4	1	17	4	21		1	16
LODI, COLUMBIA CO.								
Dodge Creamery Co.	1		2		2		1	15
Lodi Enterprise, Publishing.	1		2	1	3			
Lodi Roller Mill & Light Co., Flour and light	1	1	2		2		1	35
Lodi Steam Laundry	1		1	2	3		1	10
Total	4	1	7	3	10		3	60
LOMIRA, DODGE CO.								
Lomira Cheese Factory	1		2		2		1	15
Lomira Elevator	1		2		2			
Lomira Review, The, Publishing	1		2		2			
Meyer Bros., Elevator and grist mill	1		2		2			
Wolf, Peter, Planing mill.	1		8		8		1	60
Total	5		16		16		2	75

TABLE I—ESTABLISHMENTS INSPECTED Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
LOYAL, CLARK CO.								
Christman, B., Staves and headings	5	.....	30	.....	30	.....	2	130
Etta Bros., Planing mill.....	1	.....	3	.....	3	.....	1	35
Graves A. A., Staves and electric light	6	.....	17	.....	17	2	2	180
Loyal Roller Mills, Feed.....	3	.....	3	.....	3	.....	1	50
Loyal Tribune, Publishing.....	1	.....	3	.....	3	.....	.....	.....
Schmitz, John, Shingles and lath...	1	.....	2	.....	2	.....	1	25
Total	17	.....	58	.....	58	.....	7	400
LUCK, POLK CO.								
Pederson Bros., Saw, planing, and feed mills	3	.....	30	.....	30	.....	2	95
Total	3	.....	30	.....	30	.....	2	95
McFARLAND, DANE CO.								
Brickson, P. E., Tobacco.....	1	.....	10	15	25	.....	.....	.....
McFarland Creamery	1	.....	2	.....	2	.....	.....	.....
Total	2	.....	12	15	27	.....	.....	.....
MADISON, DANE CO.								
Alford Bros., Laundry.....	1	.....	8	32	40	.....	2	70
American Cigar Co., Tobacco ware-house	4	.....	90	160	250	.....	1	100
American Plow Co.....	2	.....	40	.....	40	.....	1	120
American Tobacco Co., Leaf tobacco	1	1	40	.....	40	.....	2	130
Amerika Publishing Co.....	.....	1	5	.....	5	.....	.....	.....
Badger State Shoe Co.....	1	.....	63	41	104	.....	.....	.....
Baines, F. S., Leaf tobacco.....	1	.....	10	30	40	.....	.....	.....
Barnard & Wilder, Leaf tobacco...	1	.....	10	40	50	.....	.....	.....
Botschafter, Der., Publishing.....	1	.....	4	.....	4	.....	.....	.....
Breckheimer Brewing Co.....	5	.....	2	.....	10	.....	1	50
Brown, H. H., Trunks.....	1	.....	2	.....	2	.....	.....	.....
Cantwell Printing Co.....	.....	1	34	8	42	.....	2	.....
C. & M. & St. P. Ry., Repair shops	6	.....	40	.....	40	.....	2	65
C. & N. W. Ry., Round-house.....	5	.....	25	.....	25	.....	1	25
Cohn, A., & Co., Leaf tobacco.....	.....	1	21	74	95	.....	.....	.....
Coleman, F. J., Leaf tobacco.....	1	.....	6	30	36	.....	.....	.....
Cooper, T., Foundry.....	3	.....	8	.....	8	.....	.....	.....
Curtis Collar Pad Co.....	2	.....	5	7	15	.....	1	20
Democrat Printing Co.....	1	.....	80	35	125	.....	.....	.....
Electrical Supply Co.....	1	.....	4	3	7	.....	.....	.....
Fauerbach Brewing Co.....	8	.....	20	.....	20	.....	2	250
F. F. F. Laundry.....	.....	1	5	15	20	.....	1	35
Findorf, J. H., Sash and doors.....	4	1	60	.....	60	.....	1	60
Frederickson, A. D. & F. V., Sash and doors	3	.....	25	.....	25	.....	1	50
French Battery Co., Dry batteries.	1	.....	18	17	35	1	.....	.....
Fuller & Johnson Mfg. Co., Agric. implements	25	3	370	5	375	.....	3	400
Gallagher, John, Tents and awnings	1	.....	4	6	10	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name, and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MADISON—Continued.								
Garluss, B., Machine shop.....	1		6		6			
Gisbalt Machine Co., Machine tools	16		544	6	550	2	3	550
Gould, Wells & Blackburn Co., Cor-								
fee roasting	1		15		15			
Grimm's Book Bindery		1	8	7	15			
Hanson, Fred, Sash and doors.....	1		20		20			
Hausman Brewing Co.....	13	3	26		26		3	280
Kanouse, C. H., Wagons, etc.....	1		2		2			
King & Walker, Printing presses,								
etc.	5		35		35		1	30
Kleuter Bros., Feed mill.....	2		4	1	5			
Ledwith, Geo., Carriage shop.....	3		7		7			
Lion Laundry	1		2	8	10		1	15
Madison Boat Co.....	4		10		10		1	10
Madison Candy Co.....		1	23	22	45			
Madison Carriage Co.....	1		5		5			
Madison Fixture & Plating Works.	2		2		2			
Madison Gas & Electric Co.....	13		83		83		4	900
Madisonian, The, Publishing	1		4		4			
Madison Knitting Works.....	1		6	6	11		1	12
Madison Saddlery Co.....		1	28		28			
Madison Steam Dye Works.....	1		6	1	7		1	10
Madison Steam Laundry.....	1		2	7	9		1	20
Madison Tent & Awning Co.....	1		1	2	3			
Madison Traction Co., Shops, etc..	4		7		7			
Madison Underwear Co.....	1		3	25	28			
Madison Waterworks	3		5		5		2	260
Malec Bros., Shoes	1		4		4			
Mason-Kipp Mfg. Co., Lubricators.	1		30	2	32		1	60
Mayer, Walter, Printing.....	1		3		3			
National Gate Works.....	1		17	3	20			
Newbury & Peper, Machine shop....	1		5		5			
Northern Electrical Co., Electrical								
machinery	11		315	85	400		3	600
Payton, Martin, Foundry.....	3		20		20			
Radke, W. D., Interior woodwork.	3		5		5			
Scanlon-Morris Co., Hospital furni-								
ture	1		7	3	10			
State Journal Printing Co.....	1	1	47	8	50		1	40
Taylor & Gleason, Printing.....		1	6		6			
Teckemeyer Candy Co.....	1		15	20	35	3		
Tracy, Gibbs & Co., Printing.....	2		15	1	16		1	15
United States Sugar Co., Beet sugar	7	2	200		200		1	16
Valvoline Oil Co., Burning-oils....	5		10		10			
Weldenbeck, Dobelin & Co., Wagon								
supplies	4		9	1	10			
Wisconsin Brick Co.....		1	16		16		2	200
Wisconsin Staats Zeitung, Publish-								
ing	1		3		3			
Wisconsin Wagon Co.....	1	1	8		8			
Total	201	21	2,609	705	3,314	6	46	4,443
MAIDEN ROCK, PIERCE CO.								
Malden Rock Press, Publishing.....	1		2	1	3			
Total	1		2	1	3			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MANAWA, WAUPACA CO.								
Advocate, The, Publishing.....	1		3		3			
Brown, M. E., Cement blocks.....	1		4		4			
Esche-Nelson Co., Flour.....		1	3		3		1	60
Little Wolf River Lumber Co., Saw mill	6		40	1	41		1	80
Manawa Butter & Cheese Co.....	1		1		1		1	20
Manawa Mill, Flour and feed.....		1	3		3			
Total	9	2	54	1	55		3	160
MANITOWOC, MANITOWOC CO.								
Aluminum Foundry Co.	5		13	1	14			
Brand Printing & Binding Co.....	1		7	5	12			
Burger, Henry, Boats.....	2		12		12			
Cartwright, Mattison Co., Gloves ..	4		40	110	150			
Daily Tribune, The, Publishing ..	1		5		5			
Draat, H. & Son, Paper boxes ..	4		4	10	14		1	25
Duggan, John, Planing mill.....	4		10		10		1	40
Grunnell Mfg. Co., Machine shop..	3		28		28			
Herald-Press Publishing Co.....	1		4	4	8			
Johnson, J. G. Co., Coal	5		20		20		1	75
Kunz & Bleser Co., Brewery	8	2	14		14		2	250
Landreth, Albert Co., Canning ..	7	2	105	80	245	33	3	200
Madson Seed Co.....		2	6	33	44	12		
Maertz, A. C., Flour mill	3	1	3		3		1	60
Manitowoc Aluminum Novelty Co...	7		102	28	130	22	2	160
Manitowoc Boiler Works	7		75		75		2	250
Manitowoc Building Supply Co., Wood-work	7		42		42		1	85
Manitowoc Daily News, Publishing	1		5	3	8			
Manitowoc Dry Dock Co., Ship building	18		362	3	365		2	160
Manitowoc Electric Light Co.....	4		9		9		4	320
Manitowoc Gas Co.....	3		6		6		1	20
Manitowoc Glue Works	6		32	3	35		2	225
Manitowoc Knitting Works, Jackets	5		9	34	43		1	100
Manitowoc Malting Co.....	6	3	25		35		4	600
Manitowoc Mattress Co.....	1		4	1	5			
Manitowoc Pea Packing Co.....	7	1	33	25	57	7	1	100
Manitowoc Pilot, Publishing	1		5	2	7			
Manitowoc Post, Publishing	1		3	1	4			
Manitowoc Seating Co., Church furniture	11	1	179	1	180		3	375
Manitowoc Seed Co.....		2	2		2			
Manitowoc Waterworks Co.....	3		7	1	8		2	200
Merchants' & Manufacturers' Printing Co.	1		5	1	6			
Nord Westen, Der, Publishing	1		3	3	6			
Northern Grain Co., Grain and produce	14	4	77		77		3	450
Oriental Mill, Flour	3	1	8		8			
Palace Steam Laundry	3		2	6	8		1	50
Rahr's Wm. Sons Co., Malting and brewing	15	5	100	7	107	1	6	900
Rausch, A. H., Sash and doors.....	8		16		16		1	100
Reiss Coal Co.....	6		55		55		4	320
Richards Iron Works, Machine shop	6		20	1	30		1	35
Richter, A. M. & Son, Vinegar.....	2	1	7		7		1	75
Schnorr Bros., Paper boxes	3		6	10	15		1	40

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MANITOWOC—Continued.								
Schoch, C., Lumber Co., Planing mill	6		24		24		1	40
Schreithart Brewing Co.	7	2	15		15		1	100
Smalley Mfg. Co., Agric. imple- ments	14		62	8	66	1	1	100
Snow Flake Laundry	1		2	6	8		1	35
Stoltz Mfg. Co., Ornaments	8		3	84	87	5		
Wahrheit, Die, Publishing	1		2	1	3			
Wisconsin Chair Co.	6		133		133	6	2	200
Wisconsin Knitting Mill, Hose.....	1		4	14	18	3		
Total	237	27	1,792	506	2,298	95	58	3,750
MARATHON, MARATHON CO.								
Marathon City Mill, Flour	1		3		3		1	80
Marathon Excelsior Co.	2		9		9		2	115
Menzner, Phillip, Planing mill	1		10		10		1	180
Total	4		22		22		4	315
MARINETTE, MARINETTE CO.								
City Laundry	1		1		1			
City Water Co.	2		7		7		3	205
Eagle Printing Co.	1		21	6	27	2		
Hamilton & Merryman Co., Shingles, etc.	6		106		106		3	150
Lieber & Noel Mfg. Co., Shingles, etc.	1		14		14		1	65
Lindem & Mueller, Sash and doors. Ludington, N. Co., Saw mill	3		33		33		1	90
Lam, Sam, Laundry	5		129		129		10	500
Marinette Roller Works	1		1		1			
Marinette Flour Mill	1	1	12		12			
Marinette Knitting Works	1		1	37	38	4		
Marinette Lumber Co.	9		301		301	13	2	650
Marinette & Menominee Box Co.	3		85		85	5	2	170
Marinette & Menominee Paper Co.	9	1	168	16	184		0	900
Marinette Planing Mill Co.	4		35		35		1	100
Marinette Steam Dye Works	1		4	2	6		1	10
Maurer, Jos., Printing	1		4		4			
Menominee & Marinette Light & Power Co.	3		7		7		4	300
Merryman Mfg. Co., Saw mill.....	2		103		103		7	600
Model Laundry	1		2	7	9		1	25
Noel, C. J., Excelsior	1		3		3			
Sawyer-Goodman Co., Lumber	5		300		300		8	900
Sing Kee Laundry	1		1		1			
Standard Oil Co.	2		1	1	2			
Stevens, A. W. Co., Threshing ma- chines	5		68	2	70		3	200
Swedish Printing Co.	1		5	3	8			
Twin City Bedding Co., Mattresses Union Steam Laundry	1		3		3			
Volkscote, Publishing	1		13	4	22		1	20
Wing, Sam, Laundry	1		1	1	2			
Total	75	2	1,447	79	1,526	24	63	4,875

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MARION, WAUPACA CO.								
Buhr, John, Creamery	1		2		2		1	10
Goldberg, L. M. & Co., Elevator		1	2		2			
Maes Bros., Furniture	1		6	2	8		1	30
Main, Fred, Saw mill	1		10		10		1	80
Marion Advocate, Publishing	1		2		2			
Marion Mills, Flour		1	2		2			
Patrotz, A., Elevator		1	2		2			
Rogers & Johnson, Box factory	2		14		14		1	60
Total	6	3	40	2	42		4	180
MARKESAN, GREEN LAKE CO.								
Friday & Co., H. P., Creamery	1		2		2		1	30
Long, H. W., Wagons	1		2		2			
Markesan Canning Co., Canning peas	3		8		8		2	100
Markesan Gas Works	1		1		1			
Markesan Herald	1		2		2			
Sulk, Wm., Elevator	1		2		2			
Yep Sing, Laundry	1		1		1			
Total	9		13		13		3	120
MARSHFIELD, WOOD CO.								
Billie, Hans, Contracting	3		12	1	13		1	30
Hafer & Kalsched, Saw and planing mill	4		16		16		2	150
Lang & Shermann, Machinery	5		12		12			
Marshfield Bedding Co., Mattresses, etc.	4		30	5	35	4	2	140
Marshfield Boiler Works	1		3		3			
Marshfield Bottling Works, Soda water	1		9		9			
Marshfield Brewing Co.	12		16		16	1	2	70
Marshfield Democrat, Publishing	1		5		5	1		
Marshfield Light & Water Co.	2		4		4		2	300
Marshfield News, Publishing	1		6	3	9	1		
Marshfield Stave Works	4		30		30	2	1	125
Marshfield Steam Laundry	1		3	12	15		1	80
Marshfield Times	1		3	5	8			
Mettelka, John, Plumbing	1		4		4			
Puerner Creamery Co.	2		4		4		1	80
Rasmussen, Peter, Grist mill	2		3		3		1	50
Roddies Lumber & Veneer Co.	8	1	174	1	175	9	3	150
Upham Mfg. Co., Furniture, flour, etc.	19	2	239		239	12	9	950
Witters, F. H., Pickling factory	1		2	33	35	16		
Total	73	3	619	60	679	46	25	1,945
MASON, BAYFIELD CO.								
White River Lumber Co.	2		225		225		9	1,800
Total	3		225		225		9	1,800

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
MAUSTON, JUNEAU CO.								
City Waterworks	1		1		1		1	60
Curran Bros., Elevator	4		4		4			
Electric Light & Power Co.	1		3		2		1	100
Harland & Fisher, Feed mill		1	3		3			
Juneau County Chronicle, Publish- ing	1		4		4			
Mauston Creamery	1		2		2		1	20
Mauston Star, The, Publishing.	1		3	1	4			
Mauston Steam Laundry	1		1	1	2		1	10
Preissnitz, V., Wagon shop	1		3		3		1	16
Strong, H. C., Machinery	1		1		1			
Underwood, F. A., Cooperage	2		4		4		1	12
Total	14	1	28	2	30		6	218
MAYVILLE, DODGE CO.								
Bolhmer Bros., Foundry and ma- chine shop	3		2		2		1	25
Buenger Malting Co.	2	3	13		12		2	180
Dodge County Banner, Publishing.	1		6		6			
Dodge County Pioneer, Publishing.	1		6		6			
Electric Light Co.	1		1		1		2	250
Falk, J. W., Butter and cheese.	1		2		2		1	15
Hollentine, J. Co., Wagons	1		6		6		1	20
Matson, H. F., Machine shop.	1		3		3			
Mayville News, Publishing	1		2		2			
Mayville Saw Mill	1		3		3			
Mayville Specialty Co., Castings.	1		14		14			
Mayville Steam Laundry	1		1	2	3			
Northwestern Iron Co., Pig Iron.	8	1	203		203		9	1,350
Paustain, F., Milling Co., Light, flour, boxes	1	1	4		4			
Ruedebusch, Aug., Brick	1		12		12			
Stelger J., Brewing Co.	6		5		5		1	20
Ziegler Brewing Co.	5		4		4		1	20
Total	36	5	286	2	288		18	1,890
MAZOMANIE, DANE CO.								
Mazomanie Flour Cabinet Co.	1		10		10		1	30
Mazomanie Mill, Feed	1		3		3			
Mazomanie Sickle, Publishing	1		1		1		1	4
Village Electric Light Plant	1		1		1		1	70
Total	4		15		15		3	104
MEDFORD, TAYLOR CO.								
Campbell & Anschuetz, Iron works ..	2		5		5			
City Printing Office	1		2		2			
Henrich Bros., Wagons	1		3		3			
Medford Brewing Co.	6	2	9		8		1	75
Medford Building Supply Co., Wood-work	3		24		24		2	180
Medford Fruit Package Co., Boxes, baskets, etc.	2		29	6	35	13	1	70

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 18 yrs. of age.	No.	Total h. p.
MEDFORD—Continued.								
Medford Lumber Co.	5		75		75	9	5	830
Medford Steam Laundry	1		1	3	4		1	10
Perkins, A. J. & Sons, Flour.....	1	1	3		3		1	75
Star-News, Publishing	1		4		4			
U. S. Leather Co., Tannery	8		80		80		3	450
Waldbote, Publishing	1		3	1	4			
Wesle Bros., Wagons	2		3		3		1	10
Total	34	3	245	10	255	15	15	1,190
MELLEN, ASHLAND CO.								
Foster-Latimer Lumber Co.	7		180		180		4	300
Mellen Weekly, Publishing		1	3		3			
U. S. Leather Co., Tannery.....	9		90		90		6	900
Total	16	1	273		273		10	1,200
MENASHA, WINNEBAGO CO.								
Banta, Geo., Pub. Co., Book-binding	1		12	4	16	1		
Fox, R. U., Knitting Co., Hose, mittens, etc.	1	1	5	35	40			
Gilbert Paper Co.	10	1	106	54	160	10	5	1,350
Hewitt, W. P. & Co., Woolen mill.	2	1	14	30	44	9		
Island Paper Co.	16	1	128	12	140	3	7	900
Little Pulley & Hardware Co.	1		2		2			
McKennon Excelsior Co.	4		9	1	10		1	100
Menasha Brewing Co.	4	1	4	1	5		1	100
Menasha Iron Works	3		5		5			
Menasha Mfg. Co., Paper mill supplies	4		22		22			
Menasha Paper Co.	13	2	88	12	100	3	1	400
Menasha Record Co., Publishing....	1		1	5	6			
Menasha Split Pulley Co.	10	1	24	1	25			80
Menasha Woodenware Co.	68	7	956	2	958	48	6	1,810
Menasha Woolen Mill, Woolen cloth	3	1	19	36	55	3	1	50
Morkley Bros. & Sceller, Machine shop	4		12		12			
Onnard Mfg. Co., Hardware	1		4		4			
Schoepel Bros., Tannery	3		3		3		1	20
Stein, Geo., Printing	1		1		1			
Strange, J., Paper Co.	6	2	48	7	55	3	3	450
Twin City Laundry	1		3	2	5		1	15
Walter Bros., Brewing Co.	9	2	15		15		2	180
Whiting, Geo. A., Paper Co.	3	1	28	32	60		3	325
Winnebago Anzeiger, Publishing ..	1		2		2			
Total	174	21	1,511	234	1,745	80	33	5,680
MENOMONEE FALLS, WAUKESHA CO.								
Enterprise Roller Mills, Grist mill.	2	1	5		5		1	80
Menomonee Falls Boiler Works	1		2		2		1	20
Menomonee Falls Roller Mills, Grist mill	1	1	4		4		1	80

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MENOMONEE FALLS—Continued.								
Ness, Geo., Sash and doors	1		4		4		1	40
Rowell Co., J. R., Agricultural im- plements	6		20		20		1	50
Wegner, F. C., Elevator	1		9		9			
Wisconsin Sugar Co., Beet sugar ..	6	4	160		160		10	1,350
Total	18	6	197		197		15	1,680
MENOMONIE, DUNN CO.								
City Gas Co.	1		3		3		1	40
City Laundry	1		4		4		1	5
Dunn County Iron Works, Gasoline engines	2		6		6		1	15
Dunn County News, Publishing....	1		6	3	9			
Dunn County Sash & Door Co.....	2		14		14		1	60
Excelsior Brick Co.	6		60		60		2	165
Globe Iron Works, Gasoline en- gines	4		80		80		2	150
Henschell, V. L., Repair shop	1		2		2			
Herrum, C. L., Saw and planing mill	2		10		10		1	45
Lutz, J. F., Bottling works	1		2		2			
Menomonie Elec. Light & Power Co.	2		3		3		2	200
Menomonie Hydraulic Brick Co....	6		250		250	5	2	30
Menomonie Iron Works, Machinery	8		8		8		1	15
Menomonie Milling Co., Flour		1	4		4			
Menomonie Oscillating Sleigh Co....	1	1	12	1	13		1	45
Menomonie Times, Publishing	1		10	3	13			
Menomonie Waterworks	1		2		2		2	160
Schmidt, H. A. & Co., Wagons, car- riages	2		10		10		1	28
Submerged Electric Motor Co.		1	5		5			
Wisconsin Elevator Co.	1	1	2		2			
Wisconsin Power Co., Flour mill ..	3	1	15		15			
Total	43	5	508	7	515	5	18	1,015
MERIDIAN, DUNN CO.								
Meridian Creamery Co.	1		2		2		1	12
Meridian Feed Mill	1		2		2		1	16
Total			4		4		2	28
MERRILL, LINCOLN CO.								
American Hide & Leather Co., Tan- nery	10		70		70		3	436
Anson-Hixson Sash & Door Co.....	12	1	187		187	19	2	350
Barber, L. S., Excelsior	2		7		7			
Dengel & Remmel Bros., Soda water	2		2		2			
English Mfg. Co., Woodenware	6		50		50	4	2	250
Gilkey & Anson Co., Planing mill..	16		231		231	5	12	600
Hone's Steam Laundry	1		3	6	9		1	25
Leldiger Brewing Co.	8		11		11		2	95
Lincoln County Roller Mills, Feed.	1	1	6		6			
Lindauer Pulp Co.	7		30		30			
Merrill Advocate, Publishing	1		6	2	8			
Merrill City Waterworks	4		5		5		2	170

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MERRILL—Continued.								
Merrill Excelsior Co.	5	.....	10	.....	10	.....	1	50
Merrill Glove & Mitten Co.	3	.....	2	3	5	.....	1	15
Merrill Iron Works, Machinery....	7	.....	11	1	12	.....	.....	.....
Merrill Lumber Co.	14	.....	235	.....	235	.....	7	500
Merrill News, Publishing	1	.....	3	3	6	.....	.....	.....
Merrill Paper & Pulp Co.	9	.....	26	.....	26	.....	3	450
Merrill Railway & Lighting Co.	4	.....	12	12	24	.....	4	400
Merrill Star, Publishing	1	.....	2	2	4	.....	.....	.....
Meyer, Emil, Veneering	1	.....	11	.....	11	.....	1	40
Stange Co., A. H., Sash and doors	15	2	650	.....	650	45	10	900
Wisconsin Thalbote, Publishing....	1	.....	3	2	5	.....	.....	.....
Wright, H. W., Lumber Co.	11	1	160	.....	160	.....	7	925
Total	142	5	1,732	19	1,751	73	58	5,220
MILTON, ROCK CO.								
Barnes, E. L., Elevator	2	.....	2	.....	2	.....	.....	.....
Borden, F. G. & Co., Leaf tobacco	1	.....	13	48	60	.....	.....	.....
Else & Son, Creamery	1	.....	2	.....	2	.....	1	20
Fetherstone Mill, Feed	1	.....	2	.....	2	.....	.....	.....
Total	5	.....	18	48	66	.....	1	20
MILTON JUNCTION, ROCK CO.								
Chambers, S. C., Leaf tobacco	1	.....	9	5	14	.....	.....	.....
Conway & Hubbell, Leaf tobacco...	1	.....	9	24	33	.....	.....	.....
Milton Co-op. Creamery Co.	1	.....	2	.....	2	.....	1	15
Stone, I. G., Blacksmithing....	1	.....	3	.....	3	.....	.....	.....
West Lumber Co., Lumber and feed	1	.....	2	.....	2	.....	.....	.....
Total	5	.....	25	29	54	.....	1	15
MILWAUKEE, MILWAUKEE CO.								
Aaron & Marks, Clothing ....	.....	1	11	4	15	.....	.....	.....
Abel & Bach Co., Trunks and travelling bags	3	4	301	106	407	48	2	300
Abeles, F. E., & Co., Clothing....	.....	1	8	30	38	1	.....	.....
Abresch, Chas., Co., Carriages and wagons	1	3	170	.....	170	.....	2	100
Ackerman Bros., Hats and caps....	1	.....	3	1	4	.....	.....	.....
Ackerman, R., Shoes	2	.....	24	16	40	6	1	50
Acme Pattern Mfg. Co., Wood and metal patterns	2	.....	9	.....	9	1	.....	.....
Adams Blank Book Co., Bindery....	.....	1	2	3	5	1	.....	.....
Adams, F. F., Tobacco Co. ....	.....	2	135	75	210	6	.....	.....
Adler, D., & Son, Clothing ....	.....	2	152	97	249	10	.....	.....
Advocate Publishing Co., Newspaper	.....	1	5	.....	5	.....	.....	.....
Albens & Lorens, Wool carders and bedroom supplies	2	.....	1	2	3	.....	.....	.....
Allen & American Steam Laundry....	.....	1	2	16	18	2	.....	.....
Allis, Chalmers Co., Foundry machine shop	32	16	1,275	25	1,300	4	9	1,230
Alten, Nick, Dye works	3	.....	2	6	8	.....	1	40
Amazeen & Co., Shoes	1	.....	29	21	50	6	1	.....
Ambrosia Chocolate Co.	2	.....	5	6	11	1	1	45
American Boiler Works	1	.....	5	.....	5	.....	.....	.....
American Box Toe Co. ....	.....	1	11	2	13	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
American Bridge Co.	3	.....	203	.....	203	.....	2	160
American Candy Co. ....	.....	1	95	167	262	.....	2	300
American Copper & Iron Works, Coppersmiths	1	.....	6	.....	6	.....	.....	.....
American Fine Arts Co., Lithographing	1	1	105	20	125	9	2	90
American Hide & Leather Co., Tannery	9	3	328	.....	328	.....	3	600
American Malting Co., (Kraus-Merker branch)	1	7	58	.....	53	.....	5	625
American Malting Co., (Main plant)	3	6	62	2	64	.....	2	230
American Malting Co., (South Bay branch)	3	3	66	.....	66	.....	3	375
American Monolith Co., Sanitary flooring	2	1	10	1	11	.....	1	60
American Sal Soda Co.	5	.....	4	.....	6	.....	1	25
American Show Print Co., Lithographing	1	.....	50	13	63	3	.....	.....
American Standard Steel Fitting Co.	4	.....	10	.....	10	.....	1	150
Anderson, Robert, Forge Co.	1	.....	15	.....	15	.....	1	100
Andrae, Julius, & Sons Co., Electric works	2	.....	44	10	54	.....	.....	.....
Andrews, Fred., & Co., (Town of Milw.) Stone cutting	11	.....	40	.....	40	.....	2	200
Anstedt, C., Leather Co., Tanning	2	.....	33	.....	33	.....	2	225
Armstrong Pattern Works	1	.....	2	.....	2	.....	.....	.....
Ashn, Thomas & Son	2	.....	25	.....	25	1	.....	.....
Badger Candy Co. ....	.....	1	17	42	59	15	.....	.....
Badger Dye Works	1	.....	6	19	25	.....	1	33
Badger Fur Dressing & Dye Works .....	.....	1	12	.....	12	.....	1	40
Badger Laundry	2	.....	.....	15	17	.....	1	40
Badger Nail Co., Wire works	5	.....	19	.....	19	.....	.....	.....
Badger Sash & Door Co.	4	.....	50	.....	50	.....	1	80
Badger Wire & Iron Works	2	.....	14	1	15	.....	.....	.....
Baird Press, The, Job printing .....	.....	1	4	.....	4	.....	.....	.....
Banker, C. I., Wire fences .....	.....	1	16	.....	16	.....	.....	.....
Barkow, Herman, Wagons	1	.....	14	.....	14	.....	.....	.....
Barth Elevator Co., Elevators	3	.....	58	2	60	2	2	.....
Battery Power Co., Developing .....	.....	1	4	.....	4	.....	1	100
Bayley, Wm., & Sons Co., Blowers and exhausters	2	1	50	.....	50	.....	2	200
Bay View Laundry	1	.....	1	3	9	.....	1	25
Bay View Steel Casting Co., Foundry	2	.....	18	.....	19	.....	1	35
Beach & Tonnson, Cornice works	1	.....	10	.....	10	.....	.....	.....
Beaver Mfg. Co., Motors	2	.....	80	.....	30	.....	.....	.....
Beck, C. A., & Son Co., Boxes	8	1	160	.....	160	6	2	400
Benesch Bros., Rags and scrap iron	2	.....	40	4	44	.....	1	50
Berger Bedding Co., Bedsprings, mattresses, etc.	2	2	53	12	70	3	1	100
Berger-Crittenden Milling Co., Flour mill	4	3	75	.....	75	.....	5	1,000
Berthelet Construction Co., Cement blocks	4	.....	9	.....	9	.....	.....	.....
Berthelet, H., & Co., Sewer pipes	6	.....	25	.....	25	.....	.....	.....
Beverly Co., Skirts .....	.....	1	30	50	80	3	.....	.....
Biersach & Neldermeyer Co., Galvanized iron	2	.....	30	.....	30	.....	.....	.....
Biersach Mfg. Co., Tin tags	1	.....	4	.....	4	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Birkenwald, S. Co., Dairy and butcher's supplies	2	1	40		40			
Blatz, Val., Brewing Co.	15	11	668	73	741	60	6	2,400
Bliss Electric Car Lighting Co.	1		32	3	35			
Blomkun, Electric Co., Armature winding		1	7		7			
Blumenfeld, Lascher & Brown Co., Millinery		3	40	100	140	2		
Bodden & Bright Co., Coffee and peanut roasting	1		7	1	8		1	15
Bodden Packing Co., Pork and beef packing	9		175		175		8	300
Bogenberger & Bros., Galvanized iron	1		15		15			
Bollenbach & Vanderkamp, Printing		1	7		7	1		
Bond, Hahn & Sarnow Co., Lime and cement	1		25		25			
Borchert Malting Co.	4	2	12		12		3	250
Bornstein-Zimmerman, Clothing		1	6	9	15			
Bottrell Cycle & Specialty Co., Bicycle Mfg.	1		3		3			
Bradley & Metcalf Co., Boots and shoes		1	192	76	268	17	2	190
Brand Stove Co., Stoves and ranges	4	2	246	4	250	5	2	250
Braum, P. J., Glove Co., Gloves		1	10	17	27	2		
Brazell, J. G., Printing	1		8		8	1		
Brithaupt Printing Co., Job printing		1	10		10			
Brenk Bros., Merchant tailors		1	28	8	36			
Brett, J. G., Grain Saver Co., Grain saving machine	1		1		1			
Brill, J. P., Art glass works	1		4		4			
Brillman Bros., Lithographing		1	59	6	65	8		
Brodesser Mfg. Co., The, Elevators	2	1	40	2	42		1	100
Brown, Fred, Repair shop	1		9		9			
Bub, Jos. Co., Upholstery		1	23	1	24	2		
Buehler, Andrew, Printing		1	4		4	1		
Buestrin, Henry, & Son, Contractors	2		45		45			
Bulfin, Edw., Job printing		1	11		11	1		
Bunde & Upmeyer Co., Jewelry		1	28	7	35			
Rurdick & Allen, Job printing		1	20	2	22	2		
Burnham Bros., Brick	7		80		80	5	2	115
Burroughs, George, & Son, Trunks		1	14		14			
Calumet Laundry Co.	2		1	11	12		1	50
Campbell Laundry		1	11	71	82	2		
Canar Bros. Laundry		1	2	7	9		1	30
Cannon Printing Co.		1	50	10	60		3	240
Carnival Laundry	1		1	9	10	2	1	60
Carpeles Co., Trunks		1	50	10	60		2	150
Cassel, B., & Co., Scrap iron			2		2			
Catholic Citizen, The, Newspaper		1	6	2	8			
Central Bitulithic Paving Co.	1		15		15		1	30
Central Foundry Co.	5		60		60		1	35
Chain Belt Co.	3	2	173	2	175	36		
Chapin Co., Mill stuffs	2	1	13	1	14			
Chase Brick Co., Brick	6		125		125	7	4	45
Cherno, Gust, Sausage	1		4		4		1	20
C., M. & St. P. Ry., Car heating plant	1		4		4		2	150

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
C., M. & St. P. Ry., Elevator "A".....		1	20		20		2	160
C., M. & St. P. Ry., Repair shops.....	50	3	3,731	3	3,734	3	11	2,300
C., M. & St. P. Ry., Switches and material.....	4	1	75		75		2	150
Chicago & Northwestern Ry., Repair shop.....	14		191		191		3	200
Clanick-Hirsch Co.....	1		3		3			
Clark Engraving Co., Engraving and printing.....		1	62	8	70			
Clifford Mfg. Co., Automobile parts.....	1		5		5			
Cohn Bros., Clothing.....		1	50	100	150	4		
Cohn, Isador, Machine shop and scrap iron.....	1		13		13	1		
Colnik Mfg. Co., Structural iron.....	1		18		18			
Colonial Leather Co., Tanning.....	2		12		12		1	100
Columbia Knitting Co.....		1	9	16	25	1		
Columbia Publishing Co., Newspaper.....		1	6	1	7			
Conrad Bros., Tannery.....	5	1	90		90		4	400
Conway Veneered Doors & Mantle Co.....	7		130		130	6	3	180
Copperud, Andrew, Machine shop.....	2		21		21		1	85
Cornille Bros., Saloon and office fixtures.....	1	3	25		25		1	40
Corrigan, Edw., Binding.....		1	1	3	4			
Coxe Bros. & Co., Coal docks.....	12		50		50		4	320
Cramer-Krassett Co., Art and job printing.....		1	39	7	46	3		
Cream City Bonnet Frame Works.....		1	4	26	30	8		
Cream City Brewing Co.....	15	3	91		91	1	3	200
Cream City Can Works, Tin factory.....	1		18	12	30	4		
Cream City Casket Co.....	2		14	1	15		1	50
Cream City Laundry.....		1	10	53	63	4	2	100
Cream City Litho-Engraving Co.....	1		3		3	1		
Cream City Marine Boiler Works.....	1		20		20		1	20
Cream City Mirror Plate Co., Mirrors.....	2		40		40		2	150
Cream City Sash & Door Co., Sash, doors, etc.....	16	5	230	5	235	1	3	400
Cream City Smelting Works.....	2		3		3			
Cream City Tallow & Grease Co., Rendering plant.....	1		2		2		1	40
Cream City Woven Wire Works, Springs, etc.....	4	1	75	7	82	5	3	240
Creede, Geo., & Brother, Carriage works.....	3	1	25		25			
Crow Stove Polish Co.....	2		3	8	6			
Crucible Steel Casting Co.....	4		30		30			
Crystal Soap Co.....	1		14	12	26	3	1	
Curtiss-Yale Co., Sash and doors.....	4		28	3	31			
Cutler-Hammer Co., Electrical controlling device.....	7	1	414	13	427	29	2	260
Daisy Roller Mills, Flour.....	1	3	60		60		3	450
Davis Bros., Boiler works.....	1		30		30		1	35
Davis, H. M., Plating.....		1	5		5			
Davis Mfg. Co., Hardware specialties.....	5		40		40		1	100
Deguenther Laundry.....		1	2	18	20	1	1	50
Delaney Oil & Lubricant Co.....	1		4	1	5		1	20
Develaar, M., & Son, Brick.....	4		40		40		1	125
Diamond Ink Co.....		1	21	27	48	2		

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Dings Electro-Magnetic Separator Co., Mining machinery.....	1		14		14	2		
Doelger-Kissten & Scherff Co., Machinists	1		21		21		1	40
Doerfinger Artificial Limb Co.		1	4	1	6	1		
Domacnost, The, Newspaper.....		1	5	2	7			
Domestic Laundry		1	4	7	11			
Donner Bros., Feed mill.....	3		8		8			
Dorsch, Jno., & Sons, Farm imple-ments	1		5		5			
Downey & Kruse Co., Machine shops	1		8		8			
Dunck, H., Tanks	1		3		3		1	25
Durant, W. V., Co., The, Counting machines		1	5		5			
Dutcher, J. A. & P. E., Co., Steel castings	6		100		100		2	120
Dyer Saddlery Co., Saddlery.....		1	20	1	21			
Eagle Brass Foundry, Brass, bronze and white metal	1		2		2			
Eagle Knitting Mills		1	2	15	17	6		
Eagle Lye Works		2	39	20	59	16	1	75
Economical Tool Co., Machine tools	1		12		12			
Elastic Nut & Bolt Co.	3		40		40	12	1	75
Electric Power & Battery Co., Electric batteries		1	8		8		1	100
Elite Foundry Co., Gray iron cast-ings	1		14		14			
Elkert Bros., Tanning	3		15		15		1	40
Ellsworth & Thayer Mfg. Co., Gloves, fur coats, etc.		1	55	75	130	2		
Empire Laundry	1		1	8	9		1	40
Erinrude, O., Pattern works.....	1		3		3			
Eureka Laundry	1		2	17	19	2		
Evening Wisconsin, Newspaper....		1	190	20	200	4	1	150
Everest-Braband Co., Job printing.	1		6		6	2		
Everly, J. M., Job printing.....		1	13		13	2		
Everst, John, Gloves.....	1		2	4	6			
Everwear Hosiery Co.		1	2	27	29	7		
Fac-simile Typewriting Co., Prtg.		1	7	1	8	2		
Fairbanks-Morse Co., Scales	1		6	1	7			
Falk Co., The, Steel castings.....	8		583	5	588	6	4	500
Fast Machine Tool Works.....	1		2		2			
Felix & Goethel, Galvanized iron works		1	15	1	16			
Fernekes, J., & Son, Candy		1	12	32	44	7		
Ferrofix Brazing Co., Machinists....	2		3		3		1	15
Fiebrig Chemical Co., Harness dressing	1		10		10			
Figved Bros., Tanning furs.....	1		8	2	10			
Filer & Stowell Co., Corliss engines and machinery	10	2	504		504		2	700
Fischer Mfg. Co., Bunlon protect-ors		1	7	7	14			
Fixter, Joseph, Light barrels.....	1		50		50			
Fleischer Knitting Works.....	1		1	3	4			
Flint, J. G., Co., Coffee and spices		1	25		25	1	1	90
Flushing Pumping Station, Flush-ing river	1		13		13		4	400
Forest Home Monument Co., Monu-ments	2		5		5			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Forward Mach. & Tool Co., Light structural iron, etc.	3		23		23		1	75
Four Wheel Drive Wagon Co., Motors		1	28		28			
Four Wheel Drive Wagon Co., Auto trucks	2		90	2	92		1	40
Fowle Printing Co., The		1	15		15			
Frank, L., & Son Co., Sausage and sauerkraut	6		79	3	82	5	2	300
Franklin Print Shop, The, Job printing	1		5		5			
Franzen, Wm., & Son, Glass works	6		490		490	48	3	240
Fraser Co., The, Flour mill machinery		1	19	2	21			
Fress, J., Awning	1		2	1	3			
Freidenker Publishing Co., Newspaper		1	7	1	8	1		
French Wax Figure Co.		1	10	20	30			
Friedlander Knitting Co., Gloves and mittens		1	2	120	122	2	2	200
Friend & Marks, Clothing		1	60	50	110	1		
Friend Bros., Clothing		1	79	15	94			
Friend-Weinbaum, Skirts		1	5	20	25			
Froedtert Bros. Grain & Malting Co.	2	4	28		28		2	300
Fuller-Warren Co., The, Stoves and furnaces	13	1	500	2	502		3	240
Galland & Henning Pneumatic Malt-ing Drum Co.	2		75		75	1	1	150
Gallusch Co., The, Mustard		1	13		13	3		
Gallun, A. T., & Son, Tanners	13	6	580		580	15	8	1,000
Gavin Art Glass Works	2		16		16	2		
Gehl, M. C., & Co., Creamery supplies	1		15		15			
Gem Hammock & Fly Net Co.		3	108	234	342	75	2	260
Gem Laundry Co.	1		3	14	17	2	1	45
Gem Milling Co.	3		7		7		3	120
Gem Upholstery Co.	2		15		15			
General Construction Co., Stone cutting	6		35		35		1	45
Genz & Schrader, Wagons	1		3		3			
George & Heyer, Upholstering		1	38		38			
Germania Bindery Co.		1	13	23	33	5		
Germania Publishing Co., Newspaper		1	212	22	234	18	3	600
Gether, C. R., Co., Electrotyping		1	22	1	23	1		
General Construction Co., Cut stone	3		35		35		1	50
Gauder & Paeschke Mfg. Co., Tin-ware	6	5	475	125	600	61	3	475
Geyer, Wm., Machinist	1		2		2			
Gillett & Co., Printers		1	13	1	14			
Globe Chemical Mfg. Co., Glacetine Mfg.	1		1		1			
Globe Printing Co.		1	6		6			
Globe Wire & Iron Works, Wire and iron goods	3		22	1	23	2	1	20
Goelzer & Schultz, Screens, storm, sash, etc.	1		12		12			
Goerres, Philip, Cooperage Co., Beer kegs	4		64		64	3	1	100
Graf Bros., Ladies' hats		1	1	12	13	1		

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Graf, John, Weise beer and soda water	7		33	1	37	3	2	70
Grant Marble Works	2		225		225		2	200
Graselli Chemical Co.	1		4	1	5			
Great Western Knitting Co.		1	8	44	52	8		
Green Stamp & Printing Co., Printing		1	9		9	1		
Greenslade Foundry	4		90		90			
Green Telephone & Electric Mfg. Co., Telephones		1	12		12			
Greve Show Print Co., Lithographing	1		26	4	30	2		
Grocer's Roasting Co., Coffee roasting		1	5		5			
Gross Coal Co., The.	5		49	1	50		3	200
Gross, F. C., & Bros. Co., Packers	4	1	40		40		2	200
Gross, P. A., & Son, Millinery		1	12	5	17			
Gruhl, Sash & Door Co., Interior finish	3	1	46		46	7	2	130
Gugler Lithographic Co.	2		80	30	110	12	2	120
Gunz, R., & Co., Packers	6	2	80		80		3	300
Haase, Chas. F., Coal Co.	2		20		20		1	60
Habhegger, Theo., Carriage wagons	1		14	1	15			
Hackendahl & Schmidt, S. Iron	1		17		17		1	40
Hadler, C. & H., Job printing	1		4	1	5	1		
Haertlein, B., & Co., Brass	1		8		8			
Hafemann, Charles, Broon	1		4		4			
Hake, F. D., Job printing	1		4	1	5			
Hammersmith Engraving		1	51	9	60	1		
Hann-Wangerlin-Welckard								
Pipe organs and church	2		40	2	42			
Hansen, C. O., Co., Glove		1	66	94	150	15		
Hansen's Empire Fur Factory		1	34	66	100			
Hansen, John & Son, Soap	1		3		3		1	30
Hanson, Charles H., Int.	3		9		9			
Harsh, Smith & Edmund		1	63	28	91	5		
Hathaway, J. E., & Co., dock contractors	4		44		44			
Hayes, George, Box factory	1		16		16		1	25
Hebenstreit & Bartell, and upholstering		3	19	2	20	3		
Hecht & Zummach, colors		3	32	1	33		1	60
Heil Co., The, Steel tar	1		22		22			
Helmann, M., & Co.,		1	35	78	113	2		
Helmann, M., & Co., feathers		1	12		12			
Helnemann, Geo. H., and hats		1	27	19	46	1	1	45
Heisl, Jos., & Sons, wagons	1		18	1	19		1	75
Heinn Specialty Co.,		1	45	43	88	3	1	30
Helmholz Mitten Co.		1	9	13	22			
Hendee-Bambord-Craig printing		1	19	4	23	3		
Hendee-Kaltz Brush and wire brushes		1	19	3	22	5		
Hendee Wire Brush		1	21	2	23	4		

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Hennes & Keller, Bottle filling machines	1		24		24			
Heenecke, C., Co., Statuary wire and iron works		1	38	2	40	22		
Henschel, C. B., Mfg. Co., Cigar boxes	2	1	34	97	131	23	1	75
Hepfinger, Louis, Machinist	1		2		2			
Herold Co., The, Newspaper		1	31	15	46	2		
Hess, Charles, Sausages	2	1	36		36		1	50
Hewitt Mfg. Co., Brass castings	4		60		60			
High Service Pumping Station, Water plant	1		15		15		4	400
Hilbert, A. J., & Co., Perfumes		1	8	13	20	1		
Hilty, M., Lumber Co.	5		150		150		3	450
Hirsch Bros., Iron foundry	1		10		10	1	1	30
Hochmann Art Glass Co.		1	10		10	1		
Hock, John, Electroplating and oxidizing	1		8		8			
Hockendall & Schmidt, Iron works	1		25		25		1	40
Hoehn New Method Laundry	2		1	23	24	5	1	80
Hoelzl & Co., Printing	1		8		8	2		
Hoffman, B., Mfg. Co., Plumbers' materials	8		110		110		2	140
Hoffman-Billings Mfg. Co., Steam fitters' supplies		1	44		44		1	40
Hoffman & Billings Mfg. Co., Plumbers' brass and iron works	6	2	190	32	222	25	3	250
Hoffman & Bauer, Galvanized iron		1	50	1	51			
Holmes, E. A., Linotyping		1	7	1	9	1		
Holt Electric Co., Electric dynamos	1		10		10	1		
Holtz, Bernard, Brooms	1		5		5			
House of Correction, Factory chairs	10		315	30	375		4	320
Houtkamp Printing Co.	1		3	2	5			
Hoyer, Edw. P., Job printing		1	6		6	1		
Huebinger, Geo. M., Laundry	1		7	17	24	2	1	80
Huebsch Laundry		1	10	37	47	2		
Hummel & Downing, Paper box mfg.		1	33	22	55	3		
Hustling, E. L., Soft drinks	3		35	1	36			
Ideal Laundry	2		2	40	42		1	80
Illinois Leather Co., Hide and plaster plant	3		25		25		2	200
Illinois Steel Co.	23		1,334		1,334		28	9,000
Imperial Blank Book Co., Bindery		1	5	4	9	1		
Independent Brewery	6	2	40		40		2	130
Independent Coal Co.	4		40		40		1	40
Interior Wood Work Co., Sash and doors	10	2	100		100	6	2	100
International Harvester Co., Cream separators and gasoline engines	23	9	2,145		2,145	32	6	750
Jacobs, K. W., Cooperage	6		60	1	61		1	80
Jaloss, H. V., Box factory	1		7		7		1	60
Jenkins, W. T., Book bindery		1	10	40	50	4		
Jens, T. E. Co., Print shop		1	6	1	7	2		
Jewett & Sherman Co., Coffee and spice mill		2	35	25	60	11	1	65
Johns, H. W., Manville Co., Boilers and pipe coverings	1	1	175	23	198	1	4	300
Johnson, B. J., Soap Co.	1	1	121	51	172	9	3	285

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Johnson, Robert A., Co., Candy and crackers		3	197	322	519	181	2	150
Johnson Service Co., Regulators		1	133	1	134	10	2	200
Jonas Automobile Co., Auto repairing	2		10		10			
Jones, E. P., & Bro., Corks	4		9		9		1	40
Joyes Bros. Co., Awnings, etc.	1	1	19	10	29			
Jung Brewery Co.	8	4	131	7	138	8	3	240
Jurack, Charles, Pattern works	1		17		17			
Kaempf, F., Coppersmith	1		8		8			
Kahn Gas Stove Co., Gas and oil stoves	2		12		12			
Kaiser, Louis, Overalls and shirts		1	1	10	11			
Kalamazoo Knitting Co.	1	2	46	278	322	76	3	300
Kalt-Zimmers Mfg., Shoes and leg-gins		2	51	42	93	10		
Kamm, P. C., Grain elevator	3	1	15		15		2	80
Kanawha Fuel Co.	4		25		25		2	250
Karger, D., & Bro., Knit goods		1	1	9	10	2		
Keelyn Electric Co., Electrical engineers	1		9	1	10			
Kempsmith Mfg. Co., Milling machines	4		80		80		1	60
Keogh, Edw. Press, Job printing		1	44	11	55	1		
Kern, John B. A., & Sons, Flour mill		1	96	2	98	3	4	700
Ketter, Fred, Caskets, tanks and vats	3	1	34		34		1	50
Keystone Press Printing Co.	1		6		6	1		
Kleckhefer Box Co., Packing boxes	7		217		217	27	3	600
Kleckhefer, A., Elevator Co., Elevators	1		35		35		1	60
Kipp, B. A., & Co., Upholstering	7		52	4	56	5	1	37
Kipp, Fred, Coal and wood	1		8		8			
Kindt, C. F., Contractor	3		15		15		1	40
Klawing Co., Bindery		1	1	2	3	1		
Klein, Jacob, Planing mill	1		3		3			
Kling, George B., Fly nets, ropes, etc.	2		4	20	24	5		
Klauber Lithographing Co.		1	50	8	58	10		
Knudson, Charles, Pattern works	1		3		3			
Koenig, Wm., Wood shoes	1		4		4			
Koerner, T., Baby shoes	1		6	13	19	5		
Koffend, Andrew, Boiler and machine shop	3		16		16		1	85
Kraus-Landon Co., Printing		1	12	2	14	3		
Kropp, E. C., Printing post cards	1		25	63	88	15		
Kruecke Bros. Co., Brass foundry	1		44	2	46			
Krueger & Domann, Printing		1	6		6	1		
Krueger Mfg. Co., Automobiles		1	12		12			
Kruse Engraving Co.		1	23	1	24			
Kundmann, Wenzel, Book binding		1	9		9			
Kunz, J. L., Machinery Co., Repair shop	1		2		2			
Kurth, Herman, Brooms	1		4		4			
Kuyer Publishing Co., Newspaper		1	29	8	37	2		
Lake View Laundry	2		1	5	6		1	25
Lamp-Miller Mfg. Co., Brass goods	2		25		25			
Lange, A., Mfg. Co., Bar and office fixtures	3		18		18		1	35

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Langenberger Construction Co., Planing mill	1		17		17			
Landon Electrotyping		1	11	1	12			
Lanson, C. P. & J., Gas engines	1		30		30			
Layton Co., The, Beef and pork packers	12	2	85		85		2	160
Lehigh Valley Coal Co.	8		45		45		4	400
Levenson Bros., Caps		1	8	2	10			
Linch, Henry, Pants	1		24	16	40			
Lindemann, A. J., & Hoverson Co., Stoves	9	2	742		742	53	2	300
Lindsay Bros., Specialty shop	2		15		15			
Lint, Wm., Hides	1		10		10			
Liquid Carbonic Co.	1		15		15			
Lithotype Co., The, Printers plates		1	15		15			
Lobas, Peter M., Coal and wood	5		11	1	12		1	45
Loeffelholz Co., Brass foundries	4		30		30		1	20
Lowenbach, A., Job printing		1	3		3			
Loewenbach, B., & Son, Job printing		1	14	12	26	5	1	17
Loewenbach Machine Co., Automatic machinery		1	4		4			
Logemann Bros., Machinists	2	1	15		15		1	45
Lohr & Welfenbach, Monuments	2		10		10			
Lutter & Gies, Machine shop	1		45		45		1	35
Mahler, Albenberg & Co., Clothing		1	12	50	62	4		
Mandel Engraving Co.			32	3	35	3		
Manegold, E., Milling Co., Flour mill		2	20		20		2	350
Manthey & Sieker Construction Co., Machinists	1		11	1	12			
Marshall, August, Brushes	1		2		2			
Martin, Frank, Fur dresser and dyer	2		32	2	34	2	1	80
Martin, George, Leather	6	1	85		85		3	350
Matthews Bros., Furniture	5	2	141	4	145		2	170
Maxwell & Stillman Co., Stucco and composition	1		50	1	51			
Mayer, F., Boot and Shoe Co.	2	1	427	255	682	138	2	400
Mayhew Mfg. Co., Furniture and chairs	6	4	290	8	298	31	3	235
McDonald, J. T. L., Printing		1	2		2			
Mechanical Appliance Co., The, Motors and dynamos	2		85	16	101	6		
Meckelburg, A. F., Sash & Door Co.	6		79	1	80	1	2	90
Meler, Oscar, Die factory		1	10		10			
Meinecke, A., & Son, Children's toys, etc.	6	5	130	36	166	36	1	100
Meislinheimer Printing Co.	2		40	10	50	3		
Merkel Motor Co., Motor cycles, etc.	2		17		17	1		
Mertes-Miller Co., Boiler works	1		34		34		1	45
Metropolitan Mfg. Co., Clothing	1	1	9	60	69	6		
Meyer, Geo. J., Machinery Co., Brewers' and bottling machinery	1		17		17	1		
Meyer, L. A., Co., Electrical contractors	1		12	1	13			
Meyer-Rotter Co., Job printing		1	60	15	75	2		
Middleton Mfg. Co., Caps		1	12	9	21			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Miller, H. C., & Co., Printing and book binding		1	66	28	94	8		
Miller-Genz Co., Millinery		1	19	33	51	11		
Miller Saw Trimmer Co., Machinists		1	7		7	1		
Milwaukee Aluminum Co., Aluminum castings		1	7		7			
Milwaukee Automatic Engine Supply Co.	1		5		5			
Milwaukee Bag Co.	2	1	63	102	165	24	2	150
Milwaukee Barrel Co.	4	1	40		40	1	1	50
Milwaukee Bedding Co.			20	5	25			
Milwaukee Blank Book Mfg. Co.		1	57	75	132	11		
Milwaukee Boiler Co.	2		80		80		1	97
Milwaukee Brass Mfg. Co.	4		115		115	10	1	100
Milwaukee Brewing Co.	3	2	49		49	2	2	200
Milwaukee Bridge Co., Structural iron	5		100	1	101	1	2	300
Milwaukee Casket Co.	3	8	44	10	54	1	2	130
Milwaukee Cement Co.	5	1	40		40		4	500
Milwaukee Chair Co.	11	2	300		300	11	4	400
Milwaukee Coffee Roasting Co.	1		5		5			
Milwaukee Coke & Gas Co.	10		500		500		10	4,000
Milwaukee Concrete Supply Co.	2		8		8			
Milwaukee Corrugating Co., Sheet metal goods	5		125		125	6	2	150
Milwaukee Cutting Die Co.	1		4		4			
Milwaukee Daily News, Newspaper		2	85	7	92	10		
Milwaukee Dry Dock Co.	7		100		100		2	120
Milwaukee Dry Dock Co., (South yard)	9		190		190		3	250
Milwaukee Dry Dock Co., (West yard)	9		75		75		2	120
Milwaukee Dustless Brush Co.		1	55	5	60			
Milwaukee Dye Works	1	1	19	31	50		1	60
Milwaukee Electric Ry. & Light Co., Electric light	3		28		28		14	4,650
Milwaukee Electric Ry. & Light Co., Power house		1	75		75		16	12,000
Milwaukee Electric Ry. & Light Co., Repair shop and foundry	4		315	10	325	7		
Milwaukee Elevator Co., Grain	1	1	15		15		2	300
Milwaukee Elevator Co., (Elevator E)	8	2	29		29		3	400
Milwaukee Envelope Co.		1	9	13	21	2		
Milwaukee Fire Department Repair Shop		1	17		17		1	40
Milwaukee Foundry Co.	1		2		2			
Milwaukee Free Press, Newspaper		1	105	8	113	1		
Milwaukee Gas Light Co., Meter and fitting department		1	145		145			
Milwaukee Gas Light Co., (third ward)	12	2	55		55		6	750
Milwaukee Gas Light Co., (west side)	12	1	130		130		5	1,000
Milwaukee Gas Stove Co.	9		123	8	125	9	1	125
Milwaukee Hay Tool Co.	10		50		50	9	2	140
Milwaukee Herald, Newspaper		1	96	26	122	4		
Milwaukee Journal Co.		1	117	8	125			
Milwaukee Lace Paper Co.		1	18	80	98	4	1	85
Milwaukee Linseed Oil Co.	7		25		25		2	150

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Milwaukee Lithographing Co.		1	97	8	75	13	2	90
Milwaukee Machine Co., Gas engines	3		19	1	20	1		
Milwaukee Malleable & Gray Iron Works	3		350		350	24	1	75
Milwaukee Malting Co.	3	3	81		31		3	375
Milwaukee Metal Working Co.		1	17	1	18			
Milwaukee Mirror & Art Glass Work		1	43	1	44	1		
Milwaukee Modern Tool Co.	3		15		15			
Milwaukee Monument Co.	3		64		64		2	130
Milwaukee Motor Co.		1	37		37	1		
Milwaukee Net Co.		1	4	21	25	1		
Milwaukee Novelty Co., Bag frames		1	5		5			
Milwaukee Novelty Dye Works	1	1	20	30	50		1	125
Milwaukee Oil & Specialty Co.	1		2		2			
Milwaukee Ornamental Metal Mfg. Co.	1		5		5			
Milwaukee Paper Box Co.		1	7	23	30			
Milwaukee Parlor Frame Co.	1		13		13			
Milwaukee Pattern Works	1		10		10	1		
Milwaukee Printing Co.		1	20	11	31	6		
Milwaukee Skylight & Gal. Iron Cornice Works	1		8		8			
Milwaukee Spoke & Bending Co.	4		23		23	1	1	100
Milwaukee Stamping Co., Hardware specialties	5		30		30		1	40
Milwaukee Steel Foundry	3		50		50			
Milwaukee Stove & Foundry Co.	10		45		45	1		
Milwaukee Social Democrat Pub. Co.		1	14	2	16	2		
Milwaukee Suspender Mfg. Co.		1	1	8	9			
Milwaukee Tack Co.	4		11	4	15	4		
Milwaukee Tallow & Grease Co.	2		12		12		1	60
Milwaukee Tanning & Clothing Co., Sheepskin clothing		1	10	50	60	2		
Milwaukee Valve Co.	2		60	5	65	5		
Milwaukee Iron Works	5		25		25		1	80
Milwaukee Western Fuel Co., (Canal St.)	7	1	150		150		4	380
Milwaukee Western Fuel Co., (Cherry St.)	8		66		56		3	180
Milwaukee Western Fuel Co., (Commerce St.)	4		51		51			
Milwaukee Western Fuel Co., (Kinnickinnic Ave.)	8		70		70	2	2	200
Milwaukee Malt Co.	3	3	25		25		3	375
Milwaukee Worsted Cloth Co.	2		20	5	25		2	100
Milwaukee Worsted Mills, Yarn	7	1	44	105	149	59	4	450
Milwaukee Woven Wire Works	3		58		52	1	1	75
Minn Billard Table Mfg. Co.	2		40		40			
Miotke, Jos., Special machinery	1		2		2	1		
Mitchell Mfg. Co., Feed and litter carriers	2		4		4	1		
Molitor, M., Paper boxes		1	15	60	75	9	1	100
Monarch Mfg. Co., Coats and skirts		1	29	110	139	3		
Montwid, V. & Son, Clothing		1	12	40	52	4		
Morawetz Co., The, Furs		1	20	24	44	3		
Mueller, E. P., Stock food	1	1	24	2	26	1	4	4%
Mueller & Son Co., The, Box factory	9	1	125	43	168	25	2	205
Mueller, L. J., Furnaces	3	2	33	2	40			

FACTORY INSPECTION.

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.			Boiler Total h. p.
	Under 2 stories.	3 or more stories.	Male.	Female.	Total.	
MILWAUKEE—Continued.						
Munkwitz, Edw. H., Co., Machine shop	4	1	15			
My Laundry		1	16			
Nase, Krauss & Kohen, Paints,			50	15		
Nash, J. etc.	2	2	2	45		
Nash, J. M., Wood working ma-			20	52	6	2
chinery						130
National Aniline & Chem. Co.	2	1	30	20		65
Chemical Mfg.			4			
National Biscuit Co.	2	1	111			
National Blower Co.	1		40	53		
National Box Works	16	2	30	120		
National Brake & Electric Co.	6	3	570	40	1	20
National Distilling Co.	15	2	45	23	2	130
National Electric Co., Electrical ma-	17	2	668	573	6	40
chinery	4	1	70	48	1	700
Co., Enameling & Stamping	3	1	358		6	300
National Knitting Works	1		330	20	1	
National Mfg. Co.	1		70	1,123	4	375
National Tanning Works, Straw hats	1		220	430	87	1,200
Nelson, S. & Co., Fur dressing	1		3	4	3	450
Nicolar, Pantke Co., Furs	1		9	26	3	195
Niederkorn Co., Book binding	1		16	17		
Niederkorn Co., Printing	1		2	3		
Nordberg Mfg. Co., The, Machin-	1		13	9		
ists	1		3	27		
Nordberg Mfg. Co., The, Foundry.	1		3	5		
North Ave. Fuel Co.	1		1	3		
North End Foundry Co.	1		1	1		
North Point Pumping Station-City	1		1	1		
North Side Brush Works	1		1	1		
North Side Coal Co.	1		1	1		
Northwestern Novelty Works	1		1	1		
Northwestern Cap Mfg. Co.	1		1	1		
Northwestern Carriage Works	1		1	1		
Northwestern Fuel Co.	1		1	1		
Northwestern Furniture Co. (Dock 2)	1		1	1		
Northwestern Laundry Co.	1		1	1		
Northwestern Lithographing Co.	1		1	1		
Northwestern Malleable Iron Co.	1		1	1		
Northwestern Mfg. Co., Motors	1		1	1		
Northwestern Metal Co., Rabbit	1		1	1		
Northwestern Pattern Works	1		1	1		
Northwestern Steam Laundry	1		1	1		
Northwestern Publishing House	1		1	1		
Northwestern Straw Works, Straw	1		1	1		
Northwestern Tallow & Grease Co.	1		1	1		
Northwestern Tile Co., Cement con-	1		1	1		
tractors	1		1	1		
Northman & Duffke Co., Steel cast-	1		1	1		
ings	1		1	1		
Odenberger, John, & Co., Iron	1		1	1		
works	1		1	1		

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Obenberger, Jos., & Son, Coal buckets	2	1	15	.....	15	.....	1	60
Orth, Phil., & Co., Flour packing ..	2	.....	12	.....	12	.....	.....	.....
Osselt, Bros., Church furniture	4	.....	30	1	31	.....	1	126
Pabst Brewing Co.	22	29	1,747	321	2,068	255	27	3,000
Packages Publishing Co. ....	.....	1	6	3	9	.....	.....	.....
Pahl, E. F., & Co., Willow ware .....	.....	1	15	2	17	.....	.....	.....
Pahl, E. R., & Co., Preserves .....	.....	1	12	14	26	.....	.....	.....
Painter, Benjamin, Millinery .....	.....	1	3	1	3	.....	.....	.....
Palace Laundry Co.	1	.....	7	27	34	.....	1	100
Patek Bros., Paints	2	1	17	2	19	.....	.....	.....
Patton Paint Co., Paints	4	2	175	25	200	.....	3	240
Pauling & Harnischfeyer, Machinery	8	1	549	.....	549	2	3	550
Pederson & Groben, Sash and doors ..	5	.....	56	.....	56	2	1	75
Peez & Hoffman, Carriages	1	.....	6	.....	6	.....	.....	.....
Pennsylvania Coal & Supply Co., Building material	13	1	36	.....	36	.....	1	80
Peterson, Robert, Paper ruling .....	.....	1	3	3	5	.....	.....	.....
Pfeffer & Smith, Machine shop .....	.....	1	12	.....	12	.....	.....	.....
Pfister & Vogel Leather Co., Tannery	12	10	990	137	1,127	39	4	2,000
Pfister & Vogel Leather Co., Tannery	16	3	360	.....	360	.....	6	1,600
Pflugandt Co., Candy .....	.....	2	30	65	95	25	1	50
Philadelphia & Reading Coal & Iron Co., Fuel	6	.....	50	.....	50	.....	3	220
Phillip & Co., Die works	1	.....	6	.....	6	.....	.....	.....
Phoenix Knitting Works .....	.....	1	23	415	438	103	2	300
Phoenix Machine Shop	1	.....	10	.....	10	.....	.....	.....
Phoenix Mfg. Co., Awnings and screens	2	.....	33	4	27	1	.....	.....
Phoenix Printing Co. ....	.....	1	5	.....	5	.....	.....	.....
Pierce, E. F., Chandellers	1	1	7	.....	7	.....	.....	.....
Pietsch, Ferd, Structural iron	1	.....	8	.....	8	.....	.....	.....
Pietsch, Otto, Dye Works	1	1	43	33	130	6	2	120
Plankington Packing Co., Meat packers	13	9	581	4	585	2	9	675
Podlasky, Joe, Fur dressing .....	.....	1	15	.....	15	.....	1	35
Polecheck, Chas., & Bro., Chandellers	2	.....	49	4	53	2	.....	.....
Playsted Tool & Die Co. ....	.....	1	13	.....	13	.....	.....	.....
Pollworth, Fred., & Bro., Printing ..	.....	1	12	3	15	1	.....	.....
Passom, Peter E., Tanks	2	.....	16	.....	16	.....	.....	.....
Pressed Steel Tank Co.	11	.....	139	1	140	.....	4	400
Preus, R. J., Co., Couches and springs	1	.....	34	1	35	6	.....	.....
Prinakow, M., Pants .....	.....	1	4	9	13	.....	.....	.....
Prime Steel Co., The, Steel castings ..	2	.....	12	.....	12	.....	1	50
Prinz & Rau Mfg. Co., Mill machinery .....	.....	3	64	5	69	.....	1	85
Pritzko, A., Clothing	1	.....	2	13	20	.....	.....	.....
Quinn Blank Book & Stationery Co. ....	.....	1	10	8	18	2	.....	.....
Radtke Bros., & Kortsch, Printing ..	.....	1	32	.....	32	3	.....	.....
Rauschenberger, John & Co., Rope and twine	9	.....	33	.....	32	12	1	35
Rauwold, Jos., Church furniture .....	.....	1	9	.....	9	.....	.....	.....
Razall Mfg. Co., Book bindery	1	51	13	60
Rediske Vinegar Co.	4	8	8	1	1	80
Reinhart Mitten Co.	1	23	57	80	11	2	120

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TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total.
MILWAUKEE—Continued.								
Schwaab Stamp & Steel Co., Scales, etc.		1	29	1	30	0		
Schwalbach, M., Tower clocks	1		2		2			
Schwartzberg, H. A., Cigar boxes	3		17	8	25	1	1	35
Scotts Machinery Mfg. Co.	1		4	1	5	1		
Seaman, W. S., Co., Sash and doors	3	1	60		60		1	100
Seeboth, A. S., Wool cleaning	1		8		8		1	130
Seeboth Bros. Co., Scrap iron	5	1	38	6	44		2	80
Seeboth, G. A., Cotton felting	5		7		7		1	110
Seeboth, W. D., Printing		1	4		4			
Seelman, Geo., & Sons, Bindery		1	46	79	125	23		
Seidenberg & Hays, Ladies' clothing		1	36	40	76			
Sekowsky, H., Surgical instruments	1		1		1			
Semet & Solway Co., Coke & Gas	13		350		350		4	1,300
Sentinel Bindery, The		1	15	30	45	2		
Sentinel Publishing Co., The, Newspaper		1	178	29	200			
Sercomb, C. A., Mfg. Co., Soap		1	8	3	11	1		
Shaver, Jos., Granite & Marble Co., Monuments	4		30		30		1	75
Sheriffs Mfg. Co., Propeller	5		30		30		1	40
Siebers & Pederson Co., Pattern makers	1		16		16			
Sight Feed Oil Pump Co., Lubricators			33	1	33			
Signal Phone Co., Fire alarm apparatus		1	20		20			
Skobis Bros., Structural iron	3		40		40		1	35
Skubal & Schaur, Wagons	1		14		14			
Slocum Straw Works, Hats		1	35	90	125			
Smith, A. O., Co., Automobile parts	9	3	427	3	430	13	6	480
Smith Machine Co., Machine shop	2		60		60			
Smith & Post Co., Stone crushers	2		19		19		1	35
Smith, G. H., Steel Casting Co.	3	4	250		250		3	275
Sonnichen & Steelow, Dies	1		9		9	1		
Soudon Specialty Mfg. Co., Metal polish	1		3	2	5			
South Side Steel & Malleable Casting Co.	2		38		38	2	1	130
Spelch Stove Repair Co.	1		30		30	1		
Spencer Mfg. Co., Brass foundry	1		12		12	1		
Standard Bedding Co.		1	41	9	50	4		
Standard Brass & Iron Works	2		10	1	11			
Standard Brick Co.	6		85		85	1	2	190
Standard Candy Co.		2	13	43	56	15		
Standard Coal Docks	3		25		25		2	275
Standard Glove Works, Fur gloves	2		15	20	35			
Standard Ground Key Works, Plumbers' supplies	2		4		4			
Standard Hat Mfg. Co.		1	1	1	2			
Standard Knitting Co.	2		3	30	33	6		
Standard Separator Co., Cream separators		1	11	1	12	2		
Standard Telephone & Elec. Co., Telephones and switchboards		1	11		11	2		
Standard Victory Laundry	1		2	23	25	4	1	40

Location, name and business.	Buildings.		Employees.			Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No. Total h. p.
MILWAUKEE—Continued.							
Starke, Dredge & Dock Co., Dredging	10		75		75		1 25
Star Tannery, The	5	2	100		100		2 225
Steam Appliance Co.	1		12		12		1 35
Stehling, Chas. H., Co., Tanks and vats	1		30		30		1 80
Steinkopf & Son, Awnings and tents		1	4		4		
Sterling Wheelbarrow Co.	3		25	1	26		1 35
Stern, Bernard & Son, Merchant millers	3	8	65	1	66		2 250
Sternberg Mfg. Co.		1	25	2	27	3	
Stolper, Chas., Cooperage Co., Mfg. of beer kegs	7		50		50		2 170
Stone Coal & Coke Co., Coal docks.	4		20		20		4 300
Story Bros., Stone quarry	7		40		40		2 250
Strassburg, Chas., Brooms.	1		3		3		
Stroh Molding & Electric Co.		1	24	1	25	1	
Struck Bros., Fuel	3		4		4		1 10
Sullivan, Henry, Engraving		1	11	7	18	1	
Tabor Glove Co.		2	138	252	390	53	2 100
Tanisch Co., Job printing		1	5		5	1	
Teweles-Gundman & Co.		1	25		25		
Teweles, L., & Co., Seed		1	11	1	12		
Tews Bros., Lime, cer stone	4		17		17		
Thomas Furnace Co., Pl	4		185		185		5 2,000
Toepfer, W., & Sons, Br works	4		39		39		1 50
Towell Bros., Printing	1		9	1	10		
Trenkamp, F., & Co.	1		8		8		1 45
Trinkner, Henry, Wag	2		10		10		
Trostel, Albert, & Co.	7	6	430		430	5	6 1,100
Twentieth Century Pr	1		20	26	55	8	
Turner Tanning Mach	2		5	1	6		
Uhllein Bros., Malt	3	2	19		19		2 175
Ulrich Carpet Cleani	1		2	1	3		
Union Bottling Worl beverages	1		5		5		
Union Electric Mfg devices	1		15	1	16	2	
Union Refrigerator Refrigerator cars	7		100		100		1 100
United States Gy paper	3		20		20		2 150
Unit Web Suspen		1	1	4	5		
Usinger Fred, Sa	3		18	5	23		1 43
Van Dyke Knittl		2	130	7	157	22	2 120
Vaughn Atlantic	1	1	87	3	40	5	1 60
Vera Chemical C		1	12		12		1 100
Vilter Mfg. Co.		1	486		486	4	3 509
Volght, F. & H			5		5	1	
Voss, Herman		1	50	79	129	17	
Wadhams Oil			23		23	1	2 70
Wagner, A. F			28		28		1 90
Waldeck, Ed.		1	5		5		
Wallace, Smit tory		2	220	94	314	37	
Wallman Mfg			25	5	30	3	
Waltham Pla		1	60	1	61		
Wambold, F			7		7		

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 18 yrs. of age.	No.	Total h. p.
MILWAUKEE—Continued.								
Washington Cutlery Co.....	1	1	24	1	25			
Weeks, M. S., Carriages.....	1		5		5			
Weigell, A., & Son, Mattress factory.....		1	27	9	35	4		
Well-Buell Co., Shirts.....		1	1	1	2			
Weinbrenner, Albert, Co., Shoes.....		1	30	50	130	12		
Weingandt, A., Woolcarding.....	1		2		2			
Wels & Schmidt Pottery Co.....	4	1	10		10	1	1	35
Welse, Paul, Co., Upholstery.....	2	1	25	4	29			
Welsel & Co., Sausage.....	5	1	65		65		2	183
Weisleder, Herman, Co., Copper-smiths.....	1		6		6		1	18
Wells, F. A., Machine shop.....	1		3		3			
Wendt, F., & Co., Grain and feed.....	1		6		6			
Wenzel, J. H., & Co., Job printing.....	2		14		14	1	1	12
Wenzell & Kundman, Book bindery.....		1	4	4	8	1		
Werner, A., Silversmiths.....		1	3		3			
Werrbach, Louis, Soda water.....	1		9		9	1	1	15
Western Auto Supply Co.....	2		24	1	25			
Western Fur Co.....		1	12	10	22	2		
Western Garment Mfg. Co.....	1		2	15	17	2		
Western Grip & Trunk Co.....	1	1	57	18	75	12	1	43
Western Hardware Mfg. Co.....	6		120	4	124	5	2	160
Western Leather Co., Insoles and shoe heels.....	2	2	40	178	218	41	2	307
Western Malleable Iron Works.....	6		100		100	10	1	150
Western Novelty Co., Binding.....		1	10	17	27	1		
Western Ornamental & Specialty Co., Cornices.....	1		3		3			
Western Overalls Co.....		1	1	15	16	1		
Western Rawhide & Belting Co., Tannery.....	3	1	30		30	7	1	65
Westlake, De-la-Hunt & Smith, Job printing.....		1	14		14			
Westphal, F., & Co., Files and rasps.....	2		50		50	3	2	150
West Side Iron & Wire Works, Wire goods.....	1		3		3			
West Side Mfg. Co., Sash and doors.....	7		53		53		1	100
West-Williams Co., Bindery.....		2	18	18	36	7		
Wetzel Bros. Printing Co.....		1	52	16	68	2	2	150
Wetzlers Sausage Mfg. Co.....	1		12		12			
Weyenberg Shoe Mfg. Co.....		1	85	34	119	3		
White Star Suspender Co.....		1	4		4	1		
Whitnall Coal Co.....	5		85		85	2	4	350
Whitnall-Rademacher Supply Co., Cement.....	8		35		35			
Widmeyer, J., & Co., Blacksmiths.....	1		12		12			
Wiener, E., Furniture.....		1	38	4	42	1		
Wilbur Stock Food Co.....		1	17	54	71			
Wilcox, John, Stone cutting.....	5		10		10		1	50
Willer Mfg. Co., Sash and doors.....	3	1	63	2	65	3	2	180
Willmanns Bros. Co., Lithographing.....		1	50	5	55	6		
Wiltzius, M. H., Co., The, Church goods.....		1	30	43	73	5		
Winding & Geselschap, Paving and roofing.....	2		15		15			
Windsor Mfg. Co., Lead pipe.....	1		8		8		1	20
Wineland Laundry.....	1		2	3	5		1	8
Wisconsin Bank Note Co., Lithographing.....	1		13		13			

TABLE 1—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MINERAL POINT—Continued.								
Mineral Point Zinc Co.....	30	3	260	9	269	.....	4	400
Mineral Spring Brewery.....	7	1	6	.....	6	.....	1	80
Ross, John, Zinc Mining Co.....	1	.....	14	.....	14	.....	.....	.....
Spensley & Hoar, Creamery	3	.....	9	.....	9	.....	1	13
Total	62	6	311	9	313	.....	12	1,177
MONDOVI, BUFFALO CO.								
Advancement Association, Elevator.....	1	.....	3	.....	3	.....	.....	.....
Buffalo County News.....	1	.....	9	1	8	.....	.....	.....
Cargill, W. W., Co., Elevator.....	.....	1	1	.....	1	.....	.....	.....
Farmers Co-operative Creamery Co.....	1	.....	2	.....	2	.....	2	60
Fischer's Roller Mills.....	1	1	2	.....	2	.....	1	25
Knutson Elevator Co.....	2	.....	3	.....	3	.....	.....	.....
Mondovi Dairymen's Ass'n, Creamery	1	.....	2	.....	2	.....	1	20
Mondovi Herald, Printing.....	1	.....	3	1	3	.....	.....	.....
Mondovi Milling Co.....	.....	1	3	.....	3	.....	.....	.....
Northern Grain Co., Elevator.....	1	.....	3	.....	3	.....	.....	.....
Total	9	3	21	2	23	.....	3	65
MONICO, ONEIDA CO.								
Lukey, James, Saw mill.....	1	.....	20	.....	20	.....	2	700
Total	1	.....	20	.....	20	.....	2	700
MONROE, GREEN CO.								
Bordens Condensed Milk Co.....	5	.....	17	10	27	.....	2	300
Fitzgibbons Bros., Wagons.....	1	3	52	3	55	.....	.....	.....
Green County Herald.....	1	.....	4	.....	4	.....	.....	.....
Lans & Son, Carriages.....	7	.....	18	.....	18	.....	3	105
Monroe Bottling Works.....	1	.....	4	.....	4	.....	.....	.....
Monroe Brewery.....	4	1	15	.....	15	.....	2	950
Monroe Times, Printing.....	1	.....	4	9	6	.....	.....	.....
Monroe Daily Journal & Gazette.....	1	.....	4	4	8	.....	.....	.....
Monroe Sentinel	1	.....	6	.....	6	.....	.....	.....
Monroe Electric Light Co.....	2	.....	2	.....	2	.....	2	300
Monroe Gas Co.....	1	.....	1	.....	1	.....	.....	.....
Monroe Model Mill, Feed.....	2	.....	4	.....	4	.....	1	60
Monroe Planing Mill.....	8	.....	12	.....	12	.....	1	60
Monroe Steam Laundry.....	1	.....	2	3	5	.....	2	27
Pandow, Emil, Wagons and carriages	3	.....	5	.....	5	.....	1	6
Total	39	4	130	22	152	.....	13	1,096
MONTELLO, MARQUETTE CO.								
Fox River Feed Mill.....	1	.....	2	.....	2	.....	1	25
Montello Creamery Co.....	1	.....	1	.....	1	.....	1	10
Montello Express, Printing.....	1	.....	1	1	2	.....	.....	5
Montello Granite Co.....	5	.....	150	.....	150	.....	6	360
Montello Roller Mill.....	1	.....	2	.....	2	.....	1	50
Norcross Bros., Planing mill.....	1	.....	3	.....	3	.....	1	80
Total	10	.....	158	1	159	.....	11	467

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
MONTFORT, GRANT CO.								
Gould, F. A., Machine shop.....	1	.....	2	.....	2	.....	.....	.....
Montfort Mall, Printing.....	1	.....	2	.....	2	.....	.....	.....
Total	2	.....	4	.....	4	.....	.....	.....
MOSINEE, MARATHON CO.								
Dessert, Jos., Lumber Co.....	2	.....	40	.....	40	.....	4	220
Total	2	.....	40	.....	40	.....	4	220
MUSCODA, GRANT CO.								
Marcus, H., Telephone pms.....	1	.....	16	.....	16	.....	.....	.....
Muscoda Mfr. Co. Tables								
Valley Voice								
Total .								
NASHVI								
Rogers, W.								
Total .								
NECEDD.								
Necedah Re								
Reed, F. M.								
Total ..								
NEENAH,								
Austin, Jame								
Aylwards								
Badger M								
Bergstro								
Bergstro								
Blair, T								
Globe M								
Jamison								
Jersild I								
Johnson								
Krueger								
mill .								
Lindah								
Neenah								
Neenah								
Neenal								
Neenal								
Neenal								
Neena								
Neena								
News								
Wick								

TABLE 1—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
NEILLSVILLE, CLARK CO.								
Cash, O. K. Laundry	1		1	2	3		1	16
Der Dutsch Amerikaner, Printing..	1		1	1	2			
Electric Light & Water Co.....	1		2		2		1	100
Johnson Mfg. Co., Hubs and staves	3							
Leason, A. L., & Son, Windmills...	1		5		6		1	12
Marsh, A. B., & Co., Elevator and feed mill	1	1	2		2			
Neillsville Brewery	3	1	3		3		1	35
Neillsville Cash Milling Co., Flour.	2	1	4		4		1	70
Neillsville Planing Mill	1		3		3		1	80
Republican Press	1		4		4			
Times, The	1		3	2	5			
Wisconsin Furniture Co.....	6	1	99	6	105	5	2	160
Wolf & Kormann, Wagons.....	3		6		6		1	18
Total	24	4	132	11	143	5	9	491
NEKOOSA, WOOD CO.								
Nekoosa Paper Mill.....	13	2	340	10	350		7	1,350
Wood County Times.....	1		2	1	3			
Total	19	2	342	11	353		7	1,350
NESHKORO, MARQUETTE CO.								
Pond Lily Roller Mills.....	1		3		3			
Total	1		3		3			
NEW HOLSTEIN, CALUMET CO.								
Calumet Reporter, Printing.....	1		3		3			
Cargill, W. W., Co., Elevator.....	1		1		1			
Dumke, C. F., & Co., Flour.....	1		3		3		1	65
Dawson, John, Mfg. Co., Gas engines	3		30		30			
New Holstein Co-operative Creamery	1		2		2		1	20
Timm, H. C., & Co., Elevator.....	2		2		2			
Total	9		41		41		2	85
NEW LISBON, JUNEAU CO.								
Bierbauer, H., Brewery.....	7		3		3		1	20
Total	7		3		3		1	20
NEW LONDON, WAUPACA CO.								
Excelstor Flour Mill.....	1		5		5		1	60
Frimuth, A., & Son, Tanks.....	1		7		7			
Frelburger & Sons, Wagons.....	1		6		6		1	10
Hatten Lumber Co., Saw mill	4		80	2	82		5	250
Krupstein, Theo., Co., Brewery....	1	2	10		10		1	60
Madson, H. P., Machine shop.....	2		3		3		1	10
Model Steam Laundry.....	1		1	4	5		1	20

Location, name and business.	Buildings.		Employees.			Boilers.		
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
NEW LONDON—Continued.								
New London Boat Works.....	1		2		2			
New London Bottling Works.....	2		3		3		1	16
New London Condensing Co., Condensed milk.....	1		5		5		2	110
New London Light & Water Co.....	1		4		4		2	325
New London Iron Works, Machine shop.....	2		2		2			
New London Press, Printing.....	1		5		5			
New London Republican.....	1		2	4	6			
Page & Lyon Co., Bee hives.....	6		35		35		1	70
Sing, Chas., Laundry.....	1		1		1			
Wisconsin Chair Co.....	6	3	244	24	268	18	3	300
Total	33	5	414	34	448	19	19	1,225
NEW RICHMOND, ST. CROIX CO.								
Diser, C. J., Machinist.....	1		2		2			
Farmers' Grain Co.....	1	1	3		3			
Jagger, H. M., Sash and doors.....	1		2		2			
New Richmond Roller Mills.....	2	2	20	1	21			
New Richmond Water & Light Co.....	1		1		1			
News, The, Printing.....	1		2	1	3			
Northern Grain Co.....	3		2		3			
Republican-Voice, Printing.....	1		2		3			
Ross, J. L. Co., Elevator.....	3		2	1	3			
Superior Creamery Co.....	1		4		4		1	80
Traur & Barrett, Wood working.....	1		15		15			
Willow River Lumber Co., Saw mill.....	2		150		150		5	200
Total	18	3	207	5	212		6	290
NIAGARA, MARINETTE CO.								
Kimberly-Clark Paper Co., Paper mill.....	15		41				6	1,200
Total	15		41				6	1,200
NORTH MILWAUKEE, MILWAUKEE CO.								
Luther Bros. Co., Hardwood specialties.....	1							
Milwaukee Gas Light Co.....	2						2	75
Minn Billiard Table Mfg. Co.....	1							
Poppert Co., Mfg., Sash, doors and blinds.....	1							
Smith & Barnes Piano Co.....							3	200
Wagon Mfg. Co., Hardware specialties.....							2	300
Wisconsin Bridge & Iron Works.....							1	75
Total							3	350

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
NORWALK, MONROE CO.								
Norwalk Creamery Co.	2		1		1		1	18
Norwalk Mill & Grain Co., Flour mill	1		8		8		1	75
Norwalk Star, Printing	1	1	1		1			
Total	4	1	5		5		2	93
OCONOMOWOC, WAUKESHA CO.								
City Brewery	2		6		6		1	20
City Electric Light & Water Co.	1		5		5		3	200
Eclipse Steam Laundry	1		1	11	12		1	2
Flotow, L., Planing mill	3		5		5		1	30
Hausser & Walsh, Machine shop.	1		4		4			
Holstein, W. A., Elevator	1	1	2		2		1	20
La Belle Roller Mill, Flour and feed ..	3	1	3		3			
Milwaukee Elevator Co.	2		2		2			
Moldenhaur, W. F., Repair shop.	2		13		13			
Oconomowoc Enterprise, Printing.	1		3	2	5			
Wisconsin Free Press, The	1		4	1	5		3	200
Total	23	2	49	14	63		10	695
OCONTO, OCONTO CO.								
Alart & McGuire, Pickles	1		4		4			
Enquirer, The	1		3	2	5			
Great Northern Machine Co., Posts ..	1		6		6		1	30
Holt Lumber Co., Saw and planing mill	21		400		400	5	12	980
Oconto Brewing Co.	9	2	28	1	29		1	75
Oconto County Enterprise	1		3	3	6			
Oconto County Reporter	1		4	4	8			
Oconto Electric Light Co.	3		3		3		3	200
Oconto Lumber Co., Saw and planing mill ..	17		325		325		9	980
Oconto Water Works Co.	4		4		4		3	200
Pemberton & Gilkey Co., Lumber.	3		62		62	2	4	120
Peoples Land & Mfg. Co., Light and power ..	2		6		6		3	350
Plene, A., Elevator	3		6		6			
The Oconto Co., Lumber	6		130		130		9	900
Wisconsin Pail Co.	2		40		40	8		
Total	74	2	1,019	10	1,029	15	46	3,315
OCONTO FALLS, OCONTO CO.								
Cota, George, Elevator	4		2		2			
Falls Mfg. Co., Paper and pulp	17	1	100	5	105		13	1,000
Goggins, B. W., Machine shop	2		3		3			
Herald, The	1		1	2	3			
Oconto Falls Cabinet Factory.								
Sash and doors	1		2		2			
Oconto Falls Machine shop	1		4		4			
Oconto Falls Wooden Ware Co.								
Falls	4		25		25	3	1	80
Union Mfg. Co., Pulp	7		30		30	1	1	100
Total	28	1	227	7	234	4	17	1,180

FACTORY INSPECTION.

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
ODANAH, ASHLAND CO.								
North Western Coopers Co., Stave	1							
factory	11	40						
Stearns, J. S., Lumber Co.	12	443	1	40	2	2	150	
Total		483	11	494	2	9	975	
OGEMA, PRICE CO.								
Ogema Lumber Co.	2							
Ogema Creamery Co.	1							
Total	3	25		25		11	1,125	
OMRO, WINNEBAGO CO.								
Austria & Blakesley, Grist mill.	1							
Earl, Eugene A., Elevator	1							
Morton, C. C. & Co., Planing mill.	1							
Omro Co-operative Creamery	1							
Omro Electric Light Co.	1							
Oconto Herald Journal	1							
Oconto Stamping Co., Machine shop	1							
Omro Steam Laundry	1							
Total	9	19	4	23	1	75		
ONALASKA, LA CROSSE CO.								
Gedney, J. S., Pickle Co.	5							
Onalaska Woolen Mfg. Co.	8							
Record, The, Printing	1							
Total	14	66	6	66	5	120		
OOSTBURG, SHEBOYGAN CO.								
Oostburg Canning Co.	9							
Oostburg Flour and Grain Co.	2							
Total	11	78	7	80	5	130		
OREGON, DANB CO.								
City Laundry	12							
Courier, Richards & Roberts, Co.	1							
Meat bricks	1							
Municipal Water Plant	1							
Oak Hill Creamery	1							
Oregon Feed Mill	1							
Oregon Observer, Printing	1							
Reedfield, Ed., Leaf tobacco	1							
Total	17	104	10	113	2	25		

Location, name and business.	Buildings.		Employees.			Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	Total h. p.
OSCEOLA, POLK CO.							
Cascade Roller Mill		1	10		10		
Total		1	10		10		
OSHKOSH, WINNEBAGO CO.							
Adams & Davis, Store and office fixtures	1		3		3		
Adams, V., Machine Co., Gas engines	1		3		3		
Arnold Vinegar & Yeast Co.	4		1		1	1	35
Augustine, Henry, Wagons and carriages	2		6		6		
Badger Canning Co.	4		30	200	230	113	30
Badger Plate Co., Plating	1		1		1		
Baldauf, Louis, Repair shop	1		1		1		
Bellard & Son, Bicycles	1		2		2		
Banderobe-Chase & Co., Furniture.	3	3	200	8	203	15	200
Battis Bros., Boilers	4		12		12		
Brand, Robert & Son, Bank fixtures	1	1	50		50	1	40
Brooklyn Roller Mills	1	1	10		10	1	135
Buckstaff-Edwards Co., Chairs, etc.	2	4	312		312	13	370
Campbell & Cameron Co., Box factory and lbr.	12		176		105	4	300
Castle-Pierce Printing Co.	1		3	14	17		
Case, J. I., Threshing Mch. Co., Warehouse.	1		3		3		
Calloner, Geo. Co., Shingle mill machinery	9		50		50	1	75
Clark, J. L., Carriage Co.	11		150		150	1	125
Cook & Brown Lame Co.	1	2	25		25		
Cornelius, Frank, Galvanized iron works	1		3		3		
Davis-Hanson Co., Pumps	9		30		30	1	40
Diamond Match Co.	17		150	200	350	60	450
Doman, H. H. Co., Boats and gas engines	4		33		33		
Duggan Printing Co.	1		5	1	6		
Edwards-Ihrig Co., Mattresses ..	1	1	9	9	18		
Fenn & Wachtrap, Bottling Works.	3		3		3	2	20
Foster-Lotham Mills, Sash, doors and blinds	9	1	242		243	33	500
Galvanized Iron Works	1		7		7		
Gillens Laundry	4		4	21	25		65
Gillingham & Son, Wagons	2		6		6		
Globe Printing Co.	1		10	2	12		
Gould Mfg. Co., Sash and doors....	14		130	5	135	5	500
Gunz Bros., Wagons	2		5		5		
Hayes, E. B., Machine Co., Mill machinery	9		50	1	51		
Hicks Printing Co.	1		30	1	31		
Holister, Amos & Co., Lumber.....	7		165	5	170	3	240
Horn & Allen, Grist mill	1	1	1		1	1	90
Irig Machine Co., Machinery	1		15		15		
Johnson, H. E., & Son, Tents and awnings	1		3	1	4		
Jones, J. R., Ladders	1		1		1		
Jones & La Borde, Boats, etc	2		14		14		
Kaufmann, Chas., Repairs	1		5		5		

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
OSHKOSH—Continued.								
Klitz, M. M. & Son, Cigar boxes	1	.....	9	7	16	.....	1	25
Konrad Emery Wheel Guard Co.	1	.....	1	.....	1	.....	.....	.....
Knippenberg Mfg. Co., Miners' specialties	1	.....	13	.....	13	1	.....	.....
Lans, Jos., Candy	1	.....	5	1	6	.....	.....	.....
Lee, Sam, Laundry	1	.....	2	.....	2	.....	.....	.....
Mathwig, John, Wagons	1	.....	4	.....	4	.....	.....	.....
McMillan, R. M., & Co., Sash and doors	16	.....	270	2	272	15	3	400
Morgan Co., Sash and doors	8	3	477	33	510	34	.....	.....
Novelty Key Tag Co.	1	.....	2	.....	2	.....	.....	.....
Neville, Thos., Carriages .....	.....	1	20	.....	20	1	.....	.....
Neumeuller, Fred, Bottling works.	1	.....	3	.....	3	.....	1	3
Oshkosh Bedding Co., Mattresses, etc. ....	.....	1	18	4	22	.....	.....	.....
Oshkosh Boat Works	4	.....	23	2	25	.....	.....	.....
Oshkosh Boat & Canoe Co.	1	.....	4	.....	4	.....	1	20
Oshkosh Bottle Wrapper Co.	1	1	7	.....	7	.....	.....	.....
Oshkosh Box Factory .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Brew .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Brus .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Ciste .....	.....	.....	.....	.....	.....	.....	.....	.....
and tanks .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Cloth .....	.....	.....	.....	.....	.....	.....	.....	.....
alls and Jacke .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Dally .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Electr .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Dye .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Fluff .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Furni .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Gas L .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Grass .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Loggtr .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Machi .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Muslin .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Northv .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Paint .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Paper .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Shirt .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Soap .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Tool M .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Trunk .....	.....	.....	.....	.....	.....	.....	.....	.....
Oshkosh Water .....	.....	.....	.....	.....	.....	.....	.....	.....
Paine Lumber C .....	.....	.....	.....	.....	.....	.....	.....	.....
Palace Steam L .....	.....	.....	.....	.....	.....	.....	.....	.....
Paragon Oil & .....	.....	.....	.....	.....	.....	.....	.....	.....
and oils .....	.....	.....	.....	.....	.....	.....	.....	.....
Parker, Ira & So .....	.....	.....	.....	.....	.....	.....	.....	.....
Pratch, John, D .....	.....	.....	.....	.....	.....	.....	.....	.....
Radford Bros., S .....	.....	.....	.....	.....	.....	.....	.....	.....
Rahr Brewing Co .....	.....	.....	.....	.....	.....	.....	.....	.....
Ransom Mfg. C .....	.....	.....	.....	.....	.....	.....	.....	.....
achinery .....	.....	.....	.....	.....	.....	.....	.....	.....
Reliance Boiler V .....	.....	.....	.....	.....	.....	.....	.....	.....
Reliance Flour M .....	.....	.....	.....	.....	.....	.....	.....	.....
Schmidt, H. P., .....	.....	.....	.....	.....	.....	.....	.....	.....
Schmidt Bros., T .....	.....	.....	.....	.....	.....	.....	.....	.....
Schram, A., & S .....	.....	.....	.....	.....	.....	.....	.....	.....
Schneider, Louis, .....	.....	.....	.....	.....	.....	.....	.....	.....
Sing, Wah, Lann .....	.....	.....	.....	.....	.....	.....	.....	.....
Sitzberger, A .....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
OSHKOSH—Continued.								
Sperllich, Aug., & Son, Cistern tanks	1		2		2			
Standard Mirror Co.	1		13		13		1	20
Star Machine Works, Saw mill machinery	3		20		20	1	1	25
Starkweather, R. R., & Co., Woodworking	7		35	1	36		1	90
Streich, A., & Bros., Wagons and ice carts	2	1	68	1	69		1	190
Streich, Gabriel, Wagons	5	1	40	1	41		1	50
Termant & Monahan Co., Gas engines	3		40	1	41			
Thiemann, Arthur, Plating	1		2		2			
Thom, E., & Co., Bottling	1		4		4		1	12
Troy Steam Laundry	1		4	20	24		1	30
U. S. Engine Works	1		2		2			
Walker & Challoner Co., Machine shop	1		5		5			
Warwick Coal Co.	2	4	4		4			
Wenrich, H. F., Monuments	3		15		15			
Wilkins-Challones & Co., Mill machinery	3		40		40		1	75
Williamson & Libby Co., Sash and doors	5		180		180		3	360
Wilson Bros., Wagons	1		6		6			
Winnebago Traction Co., St. Railway	3		62	2	64		3	750
Wisconsin Art Glass Co., Glass	1		20		20			
Wisconsin Pulp Plaster Co.	1	1	8	1	9		1	60
Wisconsin Telegraph, Printing	1		8	4	12			
Wymans Sleeve Protector Co.	1			11	11			
Total	370	40	5,475	1,049	6,523	438	104	12,352
OWEN, CLARK CO.								
Owen, John L., Lumber Co.	10		252	3	255		5	365
Total	10		252	3	255		6	396
PADUS, FOREST CO.								
Hammes, John, Saw Mill	1		12		12		1	50
Reedsburg Lumber Co., Lumber and staves	1		15		15		1	80
Total	2		27		27		2	130
PALMYRA, JEFFERSON CO.								
Palmyra Roller Mills, Manufacturing flour	1		2		2			
Total	1		2		2			

TABLE I—ESTABLISHMENTS INSPECTED Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
PARDEEVILLE, COLUMBIA CO.								
Chandler, J. G., Electric lights.....	1		1		1			
Hughes, Wm., Elevator	1		1		1			
Lynch & McKay, Elevator	1		2		2			
Pardeeville Roller Mills, Mfg. flour	1		2		2			
Pardeeville Times, Publishing	1		1	1	2			
Pardeeville Water Works	1		1		1			
Total	6		8	1	9			
PARKFALLS, PRICE CO.								
Excelsior Mfg. Co.	4		40		40		3	225
Flambeau Paper Co., Paper Mills....	5		94	6	100		6	600
Flambeau Paper Co., Paper and pulp	6		68	6	74		6	500
Flambeau Paper Co., Pulp	5		20		20		1	100
Great Northern Excelsior Co.	4							
Park Falls Creamery	1		2		2		1	20
Park Falls Herald, Publishing.....	1		2	1	3			
Roddis Lumber Co.	7		68	2	70		5	400
Smith & Monroe, Lath mill.....	1		9		9		1	80
Williamson & Libby Lumber Co.	3		50		50		2	250
Winch, E. E., Stave and veneer mill	4		45		45		2	190
Winnebago Realty Co., Shingles....	2		10		10			
Total	46		408	15	423		27	2,365
PEMBINE, MARINETTE CO.								
Minn., St. P. & St. Ste. M. Railway Co., Pump-house	1		1		1			
C. M. & St. P. Ry. Co., Pump-house	1		1		1			
Total	2		2		2			
PEPIN, PEPIN CO.								
Larson & Swanson, Grain elevator..	1		1		1		1	3
Pepin Pickling Co.	2		7		7			
Schruth Bros., & Engl, Wagons and sleighs	1		3		3		1	35
Total	4		11		11		2	38
PESHTIGO, MARINETTE CO.								
Perley, Lowe Co., Planing mill	6		100		100			
Peshtigo Lumber Co.	6		175		175		7	900
Peshtigo Milling Co., Flour mill....		1	4		4			
Peshtigo Planing Mill	7		15		15			
Peshtigo Times, Publishing	1		2	2	4			
Wisconsin & Michigan Ry., Railway shops	8		25	1	26		2	90
Yep Sin, Laundry	1		1		1			
Total	29	1	322	3	325		9	990

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
PHILLIPS, PRICE CO.								
Davis, John R., Lumber Co.	11	.....	325	.....	325	7	9	900
Freedel, E., Cabinet factory	1	.....	4	.....	4	.....	.....	.....
Miller, Geo. P., Lumber Co.	3	.....	40	.....	40	.....	1	125
Phillips Bee, Publishing	1	.....	3	.....	3	.....	.....	.....
Phillips Times, Publishing	1	.....	3	.....	3	.....	.....	.....
Total	17	.....	374	.....	374	7	10	1,035
PLAINFIELD, WAUSHARA CO.								
Plainfield Creamery Co.	1	.....	2	.....	2	.....	1	12
Storks & Skeel, Flour and electric light .....	.....	1	3	.....	3	.....	.....	.....
Sun, The, Publishing	1	.....	2	1	3	.....	.....	.....
Total	2	1	7	1	8	.....	1	12
PLATTEVILLE, GRANT CO.								
Boll, W. J., Repair shop	1	.....	1	.....	1	.....	.....	.....
Enterprise Zinc Mining Co.	1	.....	70	.....	70	.....	2	140
Enterprise Lead & Zinc Mining Co.	3	.....	60	.....	60	.....	4	310
Galena Iron Works Co.	2	.....	19	.....	19	.....	1	60
Hawley Zinc Mining Co.	1	.....	12	.....	12	.....	1	89
Hodge Zinc Mining Co.	1	.....	14	.....	14	.....	1	70
Hoppe, Fred, Brewery	8	2	6	.....	6	.....	1	65
Hunt, Paul, Machine shop	1	.....	3	.....	3	1	.....	.....
Journal, The, Publishing	1	.....	3	2	5	.....	.....	.....
Morning Star Mining Co.	1	.....	6	.....	6	.....	1	40
Platt Zinc Mining Co.	1	.....	35	.....	35	.....	2	309
Platteville Butter Tub Factory	4	.....	4	.....	4	.....	1	3
Platteville Electric & Power Co.	4	.....	4	.....	4	.....	3	260
Platteville Concrete Co., Concrete blocks	1	.....	3	.....	3	.....	.....	.....
Platteville Lead & Zinc Co.	9	.....	8	.....	8	.....	2	169
Platteville Steam Laundry	1	.....	2	5	7	.....	1	10
Platteville Water Works	4	.....	3	.....	3	.....	2	230
Roselip Bros., Ice and water	1	1	7	.....	7	.....	2	137
Royal Zinc Mining Co.	1	.....	10	.....	10	.....	1	45
Schroeder, W. F., Feed mill	1	.....	4	.....	4	.....	.....	.....
West Empire Mining Co.	1	.....	11	.....	11	.....	1	83
Total	47	3	290	7	297	1	26	2,086
PLEASANT PRAIRIE, KENOSHA CO.								
Lafan & Rand Powder Co., Blasting powder	13	.....	64	.....	64	.....	4	600
Total	13	.....	64	.....	64	.....	4	600

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
PLYMOUTH, SHEBOYGAN CO.								
Hastman, A. L., Bottling works....	1		1		1			
Hunson Bros. & Timin Co., Elevator	1		1		1			
Kuether Mfg. Co., Cheese boxes...	3		10		10		1	63
Koch Mfg. Co., Overalls.....	1		2	10	12			
Plymouth Brewing Co., Brewery...	7		13	1	14		2	70
Plymouth Box Mfg. Co., Cheese boxes	2		10		10		1	63
Plymouth Chair Co.....	7		30	1	31		1	60
Plymouth Cheese Factory.....	1		2		2		1	20
Plymouth City Water Works, Water and light	3		3		3		2	300
Plymouth Flour Mill.....	2	1	3		3			
Plymouth Furniture Factory.....	6	2	80		80	2	2	120
Plymouth Marble Works, Monuments	1		4		4			
Plymouth Post, Publishing.....	1		1	2	3			
Plymouth Refrigerating Co., Cold storage	2	2	11		11		2	150
Plymouth Reporter, Publishing.....	1		2	5	7			
Plymouth Review, Publishing.....	1		2	6	8			
Plymouth Roller Mill.....	2	1	3		3			
Plymouth Steam Laundry.....	1		3	2	5		1	20
Schwartz, Carl	3		3		3		1	12
Schwartz Mfg. Co.....	6		30		30		1	75
Thurmann, F., & Co.....	3		11		11		1	25
West Riverside Machine shop.....			2		2	1		
Wolf, P. M., Chairs and tables.....	3	2	20		20		1	80
Total	57	8	247	27	274	2	17	1,067
PORTAGE, COLUMBIA CO.								
American Gas Co.....	2		4		4		1	30
Blaske Bros.	2		2		2		1	15
Burkley & Lueck, Tailoring.....	1		8	3	11			
C., M. & St. P. Railroad.....	5		35		35		2	100
Crystal Bottling Works, Root beer.	1		3		3			
Cuff, H. A., Feed mill.....	2		2		2		1	30
Eppstein Bros., Brewery.....	8		6		6		1	30
Eulberg Bros., Brewery.....	6	1	8		8	1	1	60
Mueller Bros., Granite and marble works	1		4		4			
Portage Bottling Co., Soft drinks..	1		2		2			
Portage Bottling Works, Root beer	1		3		3			
Portage City Water Works.....	1		2		2		2	160
Portage Democrat, Publishing.....	1		6	5	11			
Portage Electric Light Co.....	1		2		2			
Portage Fluff Rug Co., Mfg. rugs..	1		4		4			
Portage Gas Co.....	1		3		3			25
Portage Hosiery Co.....	4	2	35	140	175	9	1	80
Portage Iron Works.....	2		6		6		1	10
Portage Novelty Works.....	2		4		4		1	15
Portage Register, Publishing.....	1		4	4	8			
Portage Steam Laundry.....	2		2	7	9		1	80
Portage Underwear Co.....	2		2	21	23		1	12
Purdy Bottling Works, Soda water	1		3		3			
Sanborn Brick Co.....	1		20		20		1	18
Stotzer, S., Granite and marble works	1		12		12			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
PORTAGE—Continued.								
United Cigar Manufacturers.....	1		75	220	295	6		
Wise, Rundschau, Publishing.....	1		4		4			
York, I. W., & Co., Grist mill.....	2	1	15		15		2	150
Zastrow & Koepf, Machinists.....	1		1		1			
Total	58	4	278	400	678	16	18	705
PORT EDWARDS, WOOD CO.								
Edwards, John, Mfg. Co., Paper mill.....	8		130		130	2	6	1,000
Total	8		130		130	2	6	1,000
PORT WASHINGTON, OZAUKEE CO.								
Aggen, J. D., & Son, Flour mill....	3	1	5		5		1	80
Barth Bros. Mfg. Co., Tables.....	6		35		35		1	100
City Roller Mills, Flour and feed..	2	1	3		3		1	30
Gilson Mfg. Co., Gas engines.....	13		124	1	125	1	2	125
Gunther Bros., Brick and tile.....	4		15		15		2	130
Martin & Webster, Foundry.....	2		5		5			
Mueller Brewing, Malt.....	7		10		10		2	130
Ozaukee Co. Advertiser, Publishing	1		1		1			
Port Washington Brewing Co.....	8		12		12		2	140
Port Washington Herald, Publish- ing	1		1	1	2			
Port Washington Malt House.....	4	2	10		10		2	170
Port Washington Pilot, Publishing	1		1		1			
Port Washington Star, Publishing	1			5	3			
Port Washington Zeitung, Publish- ing	1		1	2	3			
Schumacher, Frank, Elevator.....	1	1	3		3			
Schranks, John, Brick.....	3		15		15	2	2	130
Western Implement Co., Trucks....	1		7		7			
Wisconsin Brass Co.....	8		68	9	77		1	120
Wisconsin Chair Co. "A".....	7	7	538	37	575	20	4	630
Wisconsin Chair Co. "B".....	6		122	3	125	4	2	130
Wisconsin Chair Co., Varnish plant	4		3		3			
Total	88	13	979	56	1,035	27	22	2,035
PRAIRIE DU CHIEN, CRAWFORD CO.								
Allen, W. T., Button factory.....	1		1		1			
Artesian Roller Mills, Feed mills..	2		1		1		1	40
Benthin, Charles, Repair shop.....	1		1		1			
Crawford Co. Press, Publishing.....	1		2	1	3			
Courier, The, Publishing.....	1		2		2			
Favre, Theo., Pearl buttons.....	1		6		6			
Fort Crawford Button Co.....	1		6		6			
Hunting Elevator Co.....	2	1	3		3			
Iroquois Pearl Button Co.....		1			95	1	1	100
Kalinn & Son, Pearl buttons.....	1		2		2			80
Kasperek, Joseph, Pearl buttons...	1		6		6			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
PRAIRIE DU CHIEN—Continued.								
Knops Bros., Pearl buttons.....	1		2		2			
Lechner, V., Pearl buttons.....	1		10		10			
Pearl City Record, Publishing.....	1		1	2	3			
Prairie City Electric Co.....	3		2		2		2	255
Prairie du Chien Steam Laundry...	1		1	1	2		1	8
Prairie du Chien Union, Publishing	2		2	1	3			
Prairie du Chien Tailoring Co.....		1	10	25	35			
Prairie du Chien Water Works.....	1		1		1		1	100
Prairie du Chien Woolen Mills.....	1		22	43	65		2	150
Rienow & Morse, Saw mill.....	6		8		8		1	30
Schumann & Menges, Brewery.....	6	1	6		6		2	130
Schweiger, Geo., Soda water.....	1		3		3			
Total	26	4	198	73	271	1	13	808
PRENTICE, PRICE CO.								
Blomberg, H. R., Wagons.....	1		3		3			
Falconer, Frank, Planing mill.....	1		10		10		1	50
King, Ben., Machine shop.....	1		5		5		1	20
Prentice Calumet, Publishing.....	1		2		2			
Prentice Creamery	1		2		2		1	15
News, Publishing		1	1	2	3			
U. S. Leather Co., Tannery.....	7	1	110		110		4	330
Van Dusen, C. D., Saw mill.....	1		30		30		2	190
Total	13	2	163	2	165		9	498
PRESCOTT, PIERCE CO.								
Dill, M. T., Elevator Co.....	1		3		3			
Hamsberger, John, Light.....	1		1		1			
Prescott Electric Light Plant.....	1		1		1		1	50
Prescott Roller Mills, Flour.....	2		3		3		1	60
Prescott Tribune, Publishing.....	1		1		1			
Total	6		9		9		2	110
PRINCETON, GREEN LAKE CO.								
City Electric Light & Power Co....	1		2		2		1	100
Chenney-Neumeyer, Foundry and machine shop	3		2		2		1	20
Ernest, John, Brewery Co.....	4		4		4		1	20
Princeton Butter Tub Co.....	2		5		5			
Princeton Bottling Works, Soda water	1		1		1			
Princeton Roller Mills, Flour and feed		2	3		3			
Republic, The, Publishing.....	1		3		3			
Thomas Overall Co.....	1		3	45	48			
Total	13	2	24	45	69		3	140

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
RACINE, RACINE CO.								
Adams, E. B., & Sons, Carriage supplies	1		11	1	12			
Advance Mfg. Co., Novelties	1		13	1	19			
Aishuler, Chas., Mfg. Co., Overalls	1		30	235	265	2	1	75
American Seating Co., School furniture	3	4	248	9	257	14	4	375
American Skein & Foundry Co., Skeins and jackscrews	3		150		150		2	180
Art Furniture Mfg. Co.	1		3		3			
Badger Mfg. Co., Cloaks	2		30	90	120		1	40
Barton Mfg. Co., Harness	1		6		6			
Bauman, W. M., Bricks	2		18		18			
Beffel, Frank, Mfg. Co., Pillow sham holders	1		5	1	6	1		
Bell City Basket Co.	1		28		28	5	1	100
Bell City Brewery	1		3		3		1	8
Bell City Malleable Iron Co., Castings	1		322	3	325	10	2	200
Bell City Mfg. Co., Threshing machines	4	1	83	3	86	1	1	150
Bell City Sash & Door Co.	1		15		15			
Bell City Skirt Co.		1	2	20	22			
Brandenburg & Lloede, Soda water	1		3		3			
Brown, W. P., Mfg. Co., Saddlery		3	22		22		1	60
Burdie, F. N., Brick	2		14		14	4		
Carrol, J. C., Coal and wood	1		12		12		1	40
Case Bros., Flour mill	3	1	5		5		1	35
Case Plow Works	1	2	498	8	506	1	4	750
Case, J. I., Threshing Mach. Co.	20	9	1,339	63	1,402	18	9	1,740
Chalmers Foundry Co.	3		10		10			
Chicago Rubber Clothing Co.	2	1	20	80	100	2	2	80
Clancy, J. F., & Co., Coal and wood	9		17		17		2	180
Collier, T. & P., Ironing machines	1		3		3			
Commercial Press Co., Publishing		1	5	13	13	2		
Corse, James, Carpenter shop	1		5		5			
Crotsenburg, W. A., Monuments	1		2		2			
Dempsey, J. W., Coal	1		10		10		1	135
Domestic Mfg. Co., Ironing machines	1		6		6			
Driver, Thos., & Sons Mfg. Co., Sash and doors	2		40		40		1	100
Easy Light Wagon Co.	1		1		1			
Eisendrath, B. D., Tannery	1	3	101	9	110	3	2	350
Elite Laundry	1		3	5	8		1	30
Fair Mfg. Co., Hat pins		1	2	10	12	2		
Fence, B. B., Co., Fences	1		2		2			
Fiebrick-Fox-Hilker Shoe Co.		2	70	45	115	6	1	40
Fish Bros. Wagon Co.	4	6	188	10	198	5	3	150
Flegel Plating Works, Plating	1		4		4			
Foster & Williams Mfg. Co., Agri. implements	4		4	1	5			
Freeman, Geo. B., Bits	1		5	1	6			
Freeman & Sons Mfg. Co., Boilers	3	3	264	3	267	5	2	335
Gold Medal Camp Furniture Co., Camp furniture	2		35	15	50		1	80
Groton, Geo., Mch. Co., Engraving tools	1		16		16			
Graham, F. W., Mfg. Co., Patterns	1		7		7			
Green, F. J., Engines	1		14		14		1	45

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
RACINE—Continued.								
Gunther, F. W., Co., Sauerkraut..	4	.....	8	6	14	0	1	40
Harvey Spring Co., Wagon springs	2	.....	35	.....	35	1	.....	.....
Haumerson, F. H., & Sons, Brick.	2	.....	17	.....	17	1	.....	.....
Herrick, H. F., Co., Repairs.....	2	.....	5	.....	5	.....	1	25
Higgins Spring & Axle Co.....	5	.....	84	1	85	5	1	300
Hilker Bros., Brick Mfg. Co.....	2	.....	30	.....	30	.....	.....	.....
Hilker-Wiechers Mfg. Co., Overalls	1	.....	20	193	213	3	.....	.....
Holbrook-Armstrong Iron Co.....	4	.....	125	.....	125	1	1	50
Horlicks' Food Co., Malted Milk...	6	.....	158	150	308	29	4	120
Imperial Bit & Snap Co.....	.....	1	30	3	33	1	1	8
Jacobson, H. F., & Co., Patterns..	1	.....	2	.....	2	.....	.....	.....
Johnson, S. C., & Son, Floor wax..	3	.....	70	10	80	12	3	275
Johnson & Field Mfg. Co., Fanning mills	1	.....	18	2	20	.....	1	100
Jorgenson Bros., Laundry.....	1	.....	3	9	12	.....	.....	33
Junction Flouring Mill Co.....	.....	1	.....	.....	.....	.....	1	8
Klinkert, B., Brewing Co.....	1	.....	10	.....	10	.....	1	150
Kohlman, Peter J., & Co., Soda and mineral water.....	.....	1	5	.....	5	.....	.....	.....
Kranze, W. H., Brooms.....	1	.....	4	.....	4	.....	.....	.....
Ladies' Garment Mfg. Co.....	1	.....	9	101	110	3	1	60
Lakeside Malleable Casting Co.....	3	.....	200	.....	200	1	2	200
Lakeside Printing Co.....	1	.....	5	.....	5	.....	.....	.....
Lang Mfg. Co., Metal stamping....	1	.....	16	.....	16	.....	.....	.....
Lock, Hook & Snap Co.....	1	.....	2	1	3	.....	.....	.....
Marbohn Wagon Works.....	1	.....	5	.....	5	.....	.....	.....
Manufacturers Printing Co., Print- ing	1	.....	11	1	12	1	.....	.....
Miller, J., Shoe Co.....	1	2	225	75	300	22	2	150
Milwaukee Electric Ry. & Light Co.	2	.....	67	.....	67	.....	6	1,600
Mitchel & Lewis Wagon Co.....	10	6	429	6	435	11	3	750
Mitchell Motor Car Co., Automobiles	7	.....	250	.....	250	1	1	50
Model Steam Laundry.....	1	1	4	11	15	.....	1	20
Modern Skirt Co.....	1	.....	4	71	75	.....	.....	.....
Monarch Shoe Co.....	1	.....	6	1	7	.....	.....	.....
O'Laughlin, John, Stone Co.....	.....	1	70	.....	70	.....	2	200
Paddock & Meyers, Marble works..	1	.....	3	.....	3	.....	.....	.....
Paulson, J., Buggy tops.....	1	.....	1	1	2	.....	.....	.....
Peterson, O. C., Plug tobacco factory	1	.....	2	.....	2	.....	.....	.....
Philbrook Shoe Co.....	1	.....	4	2	6	.....	.....	.....
Pierce Engine Co., Engines and yachts	4	.....	85	4	89	.....	.....	.....
Piggins Bros., Machine shop.....	1	.....	8	.....	8	.....	.....	.....
Pugh, W. H., Coal.....	1	.....	28	.....	28	.....	1	100
Racine Boat & Canoe Co.....	1	.....	10	.....	10	.....	.....	.....
Racine Brass & Iron Co.....	2	.....	32	.....	32	.....	.....	.....
Racine Daily Journal.....	1	.....	26	9	35	3	.....	.....
Racine Daily News.....	1	.....	11	1	12	.....	.....	.....
Racine Daily Times.....	1	.....	25	5	30	.....	.....	.....
Racine Engine & Machine Co.....	1	.....	34	5	39	.....	2	400
Racine Fuel Co., Coal.....	4	.....	7	.....	7	.....	1	40
Racine Garment Co., Skirts.....	1	.....	4	30	34	.....	.....	.....
Racine Gas Light Co.....	3	.....	74	.....	74	.....	2	175
Racine General Mfg. Co., Bolsters.	1	.....	8	2	10	.....	.....	.....
Racine Hatchery Co., Incubators...	1	.....	18	3	21	.....	.....	.....
Racine Iron & Metal Co., Scrap iron	1	.....	12	.....	12	.....	.....	.....
Racine Iron & Wire Works.....	1	.....	6	.....	6	2	.....	.....
Racine Malleable Iron Co., Harness castings	6	.....	276	14	290	22	2	300

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
RACINE—Continued.								
Racine Metal Stamping Co.	1		12		12	1		
Racine Novelty Mfg. Co., Wooden ware	3	3	174	1	175		1	80
Racine Novelty Co., Automobile boddies		3	130		130		2	120
Racine Paper Box Co., Paper boxes	1		4	10	14	2		
Racine Paper Goods Co., Cigar pockets		1	18	36	54			
Racine Pure Milk Co., Milk and cream	5		18		18		1	100
Racine Refrig. & Box Co., Ice boxes	1		63	4	67		2	200
Racine Sattley Co., Wagons and carriages	5	8	810	23	833	12	4	925
Racine Shoe Mfg. Co.	3	2	60	41	110	9	1	80
Racine Skirt Co.		1	10	50	60	5		
Racine Top, Dash & Cushion Co....	1		4	1	5			
Racine Trunk Co.		2	36	9	45	3	1	85
Racine Traveling Bag Co.		1	7	3	10			
Racine Water Co.	5		4		4		4	300
Racine Woolen Mill Co.	3	1	60	90	150		2	375
Reliance Iron & Engine Co.	2		31	1	32			
Roberts & Co., Cut Stone	1		7		7			
Secor, M. M., Trunk Co.		4	115	9	124	11	2	200
Shoop, Dr. Medical Co.		1	32	68	90	6	1	60
Slg. St., Novelty Works, Door springs	1		2		2			
Slarle, The, Publishing	1		4	1	5			
Tecktonics, E. C., Mfg. Co., Tank lugs	1		10		10			
Tidyman, M., Candy		1	9	4	13	1		
T. M. E. R., & L. Co., Light and power	6		13		13		6	1,500
U. S. Standard Electric Works....		1	12	2	14			
Waber, H. H. Mfg. Co., Potato planters	1		4		4			
Weber-Bahnemann Co., Planing mill	1	1	40		40		1	125
West Side Laundry	1		7	13	20		1	60
West Side Printing Co.	3		4		4			
White Star Laundry		1	4	10	14		1	40
Wigley, D. P., Feed mill	1		5		5			
Winship Mfg. Co., Tank lugs	2		1		1			
Wis. Agriculturist, Publishing	1		5	13	18	2		
Wis. Supply Mfg. Co., Machine shop	1		5		5		1	25
Wood, Lyman, Mfg. Co., Leather goods		2	2	1	3			
Total	250	95	8,200	1,769	9,969	200	124	15,554
RACINE JUNCTION, RACINE CO.								
Racine Boat Co.	1		5		5			
Total	1		5		5			
RADISSON, SAWYER CO.								
Radisson Hardwood Lumber Co.	5		90		90		2	100
Total	5		90		90		2	100

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
RANDOLPH, DODGE CO.								
Jones, D. & G., Elevator	1		2		2			
Randolph Advance, Publishing	1		2	1	3	1		
Randolph Canning Co.	5		66	18	84	6		100
Randolph Electric Light Co.	1		1		1			100
Randolph Wagon Works	4	1	25		25			65
Ward & Andrews, Creamery	1						1	15
Wis. Malt & Grain Co., Elevator ..	1		1		1			
Total	14	1	97	19	116	7	6	250
READSTOWN, VERNON CO.								
Central Warehouse, Tobacco	1		11	50	61	1		
Kickapoo Lumber Co.	1		7		7			
Total	2		18	50	68	1		
REDGRANITE, WAUSHARA CO.								
Red Granite Herald, Publishers	1		1	2	3			
Wis. Granite Co., Crushed granite ..	1		130		130		50	30
Total	2		131	2	133		5	30
REEDSBURG, SAUK CO.								
Appleton Woolen Mills	5	1	28	51	79		2	160
Reedsburg Bottling Works, Soda water	1		1		1			
Reedsburg Brewery	3	1	5		5		1	50
Reedsburg Canning Co.	3	1	42	58	100	4	2	80
Reedsburg Creamery	4		3		3		1	20
Reedsburg Electric Light & Water ..	2		3		3		2	240
Reedsburg Free Press, Publishing ..	1		4	2	6	1		
Reedsburg Marble Works	2		14		14			
Reedsburg Roller Mills	2	1	2		2		1	80
Reedsburg Steam Laundry		1	2	3	5		1	20
Reedsburg Times, Publishing	1		3	1	4			
Reedsburg Woolen Mills	5	1	40	46	86	6	2	160
Sanders, A. M., Machinist	1		4		4			
Scherer & Fuhrmann, Maltsters ..	4		4		4			
Townsend Bros., Mfg. interior finish ..	4		6		6			
West Side Building Co.	4		15		15			
Total	42	6	176	161	337	11	12	810
REEDSVILLE, MANITOWOC CO.								
Rehinawand, P., Grain elevator		1	2		2			
Total		1	2		2			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
RHINELANDER, ONEIDA CO.								
Brazell, Ed., & Sons, Saw mill	1		28		28		3	150
Brown Bros., Lumber	3	1	130		130		9	1,000
City Construction Co., St. paving	1		50		50		1	50
City Electric Light Plant	1						3	285
City Water Works	1		5		5		2	150
Herald, Publishing	1		2	1	3			
Johnson, F. H., Lumber Co.	2		1		1		5	500
Kristianson, Mr., Bicycle shop	1		2		2			
New North (The), Publishing	1		5	2	7			
Queal, J. H., & Co., Lumber	6		40		40		1	150
Rhinelanders Boat Co.	1		10		10			
Rhinelanders Brewery Co.	3		6		6		1	25
Rhinelanders Iron Co.	1	4	15		15		1	25
Rhinelanders Lighting Co.	1		5		5		2	250
Rhinelanders Mfg. Co., Refrigerators	7		60		60		2	150
Rhinelanders Paper Co.	9	2	275		275		4	1,200
Rhinelanders Power Co.	2		9		9			
Rhinelanders Steam Laundry	1		3	5	8		1	25
Robbins Lumber Co.	8		170	2	172		8	560
"Soo" Ry. Co., Round house	2		14		14		1	50
Stevens Lumber Co., Saw mill	2		100		100	2	5	250
Vaughn, W. B., Concrete blocks	1		2		2			
Vindictor, Publishing	1		3		3			
Wis. Veneer Co., Veneer factory	5		100		100	1	3	240
Total	22	7	1,036	10	1,046	3	52	5,075
RIB LAKE, TAYLOR CO.								
City Electric Lighting Plant	1		2		2		2	70
Mathie, John, Saw mill	4		25		25		8	110
Rib Lake Lumber Co.	7		140		140		9	900
U. S. Leather Co.	8		50		50		8	400
Total	20		247		247		22	1,490
RICE LAKE, BARRON CO.								
Barron County Handle Co.	4		20		20		1	70
Boertz, F. S. & Co., Repair shop	1		3		3			
Chronotype, Publishing	1		3	1	4			
Comley, A. M., General repairing	1		5		5		1	70
Jones, McClench & Co., Machine shop and feed mill	1		5		5		1	10
Mercier, C. E., Saw mill	2		17		17		1	70
Peters, J. H., Machine shop	2		3	1	4		1	8
Peterson & Nelson, Woodworking	3		10		10		1	25
Phoenix Brewing Co.	3		3		3		1	50
Red Cedar River Mfg. Co., Woodworking	2		2		2		1	25
Rice Lake Light & Water Works	1		3		3		2	240
Rice Lake Creamery	1		2		2		1	25
Rice Lake Iron Works	1		3		3	1	1	8
Rice Lake Lender, Publishing	1		3	1	4			
Rice Lake Lumber Co.	12		263	3	265		8	880
Rice Lake Milling & Flour Co., Flour		2	4		4			
Rice Lake Mfg. Co., Woodworking	8		10		10		1	50

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
RICE LAKE—Continued.								
Sandahl, J. A., Wagons	1	.....	3	.....	3	.....	.....	.....
Shelrud, J., Woodworking	3	.....	10	.....	10	.....	1	100
Times, Publishing .....	.....	2	10	.....	10	.....	.....	.....
Wis. Flour Co.	1	.....	2	.....	2	.....	.....	.....
Total	44	2	333	6	339	1	21	1,501
RICHLAND CENTER, RICHLAND CO.								
Bender & Jones, Steam Laundry ..	1	.....	2	2	4	.....	1	12
Burnham & Scott, Creamery .....	.....	.....	3	.....	3	.....	1	20
James, N. L., Saw and planing mill ..	3	.....	25	.....	25	.....	1	60
Krouskoup, A. H., Saw and planing mill ..	3	.....	20	.....	20	.....	2	160
Parfery, A. C., Excelsior	1	.....	11	.....	11	.....	.....	.....
Parfery, A. C., Grist mill .....	.....	1	1	.....	1	.....	.....	.....
Parfery, A. C., Butter tubs and boxes ..	1	.....	.....	.....	.....	.....	1	100
Republican Observer, Publishing ..	1	.....	3	1	4	.....	.....	.....
Richland Center Electric Light Plant	3	.....	2	.....	2	.....	2	200
Richland Center Flour & Feed Mill ..	1	2	2	.....	2	.....	.....	.....
Richland Center Water Works	1	.....	1	.....	1	.....	2	120
Richland Center Democrat, Publishing ..	1	.....	2	1	3	.....	.....	.....
Richland Rustic, Publishing	1	.....	3	1	4	.....	.....	.....
Snow Bros., Mfg. tubs, boxes and barrels ..	2	.....	7	.....	7	.....	.....	.....
Total	19	3	32	5	37	.....	10	672
RIPON, FOND DU LAC CO.								
Automatic Cream Separator	1	.....	4	.....	4	.....	.....	.....
Bouton & German Co., Gloves, mittens ..	2	.....	20	.....	20	.....	.....	.....
Commonwealth, The, Publishing	1	.....	3	1	4	.....	.....	.....
Hans, John, Brewery	3	3	6	.....	6	.....	1	30
Henth & Butzke, Carriages	3	1	25	.....	25	.....	.....	.....
Ripon Knitting Works	1	1	45	125	170	.....	1	100
Ripon Light & Water	2	.....	2	.....	2	.....	4	285
Ripon Produce Co., Creamery	3	.....	5	.....	5	.....	1	20
Ripon Packing Co., Pickles	1	.....	6	.....	6	.....	.....	.....
Ripon Roller Mills	2	1	3	.....	3	.....	1	80
Ripon Steam Laundry	1	.....	1	4	5	.....	1	20
Schaefer, W. E., Foundry	1	.....	3	.....	3	.....	.....	.....
Wimm, J. E., Fruit boxing	1	.....	8	.....	8	.....	1	60
Total	22	6	131	160	291	.....	10	735
RIVER FALLS, PIERCE CO.								
Elliot & Wasson, Farm products... ..	1	1	3	.....	3	.....	.....	.....
Fortune, Geo., & Co., Feed and grain ..	.....	1	2	.....	2	.....	.....	.....
Hemmingway, J. S., Air pumps and gravity machines ..	1	.....	1	.....	1	.....	.....	.....
Jensen, J. O., Sheet metal works... ..	1	.....	3	.....	3	.....	.....	.....
Journal, The, Publishing	1	.....	3	1	4	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
RIVER FALLS—Continued.								
Lund, A. W., Carriage factory	1		14		14			
Prairie Mill & Elevator		2	6		6			
Pulnam, W. H., Flour and feed manufacturing	1		3		3			
Pulnam Bee Hive Factory	1		4		4			
River Dale Light & Power Co.	1		3		3			
River Falls Light & Power Co.	2		4		4			
River Falls Starch Co.	1		13		13		1	69
River Falls Times, Publishing	1		3		3			
Smith, Geo. D., Wagon Mfg.	1		1		1		1	15
Tubbs Mfg. Co., Patent medicine ..	1		3	3	6			
Wilson Bros., Grain elevator			7		7			
Wilson A. H., Flour Mill	1		4		4			
Wis. Elevator Co.	1	1	2		2			
Total	17	5	79	4	83		2	70
RIVERSIDE, SHEBOYGAN CO.								
(See Sheboygan.)								
ROBERTS, ST. CROIX CO.								
Roberts Creamery	1		3		3		1	15
Total	1		3		3		1	15
RUBICON, DODGE CO.								
Rubicon Cheese Factory	1		1		1		1	6
Rubicon Malt & Grain Co.		2	12		12		2	165
Total	1	2	13		13		3	165
RUSK, DUNN CO.								
Christensen, N. K., Feed mill	1		1		1		1	30
Farmers' Dairy Association	2		2		3		1	80
Wis. Elevator Co.	2		2		2			
Total	5		6		6		2	50
ST. CROIX FALLS, POLK CO.								
Columbia Imp't Co., Power plant builders		1	300	3	303		2	60
Phee, Thos., Construction Co., Power plant		1	200		200		3	180
St. Croix Falls Roller Mill		1	3		3			
Total		3	503	3	506		5	250
ST. NAZIANZ, MANITOWOC CO.								
Pioneer Canning & Pickling Co. ..	6	1	31	12	43		1	60
St. Nazianz Roller Mill	2		3		3		1	90
Total	8	1	34	12	46		2	150

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
SARONA, WASHBURN CO.								
Hill, Wm., Saw mill	1		12		12		1	60
Total	1		12		12		1	60
SAUK CITY, SAUK CO.								
Dresen Bros., Contractors	1		7		7		1	15
Hussel & Meyer, Buggies, wagons, sleds	3		6		6		1	50
Maegerlein & Son, Elevator	4		2		2			
Sauk City Brewery	3	1	5		5			
Sauk City Canning & Packing Co.	4		50	30	80		2	50
Sauk City Pioneer Press, Publishing	1		1	1	2			
Village Electric Light Plant	1		1		1		2	225
Weekly Home News, Publishing....	1		2	2	4			
Wis. Creamery Co.	1		2		2			
Total	19	1	76	33	109		6	330
SAWYER, DOOR CO.								
Elenbecker Bros., Planing mill	5		7		7		1	25
Elenbecker Bros., Woodshop	1		7		7		1	85
Jenning Packing Co., Canning peas	2		135	35	200	19	3	370
Lyon Bros., Elevator	2	1	3		3			
Shaw Co., Thos., Feed	3	1	3		3		1	80
Teweles and Brandels, Elevator		1	2		2			
Total	20	3	157	35	222	19	6	440
SAXON, IRON CO.								
C. & N. W. Ry. Co.	1		1		1		1	20
Henry DeFer, Saw mill	2		50		50		3	300
Saxon Creamery Co.	1		1		1		1	25
Total	4		52		52		5	345
SCANDINAVIA, WAUPACA CO.								
Silver Lake Creamery		1	2	1	3		1	15
Silver Lake Roller Mills		1	1		1			
Shoppers Pilot, Publishing		1	1	1	2			
Wanbow, O. N., Wagon shop		1	1		1			
Total		4	5	2	7		1	15
SCHLEISINGERVILLE, WASHINGTON CO.								
Botschaffer, Der, Publishers	1		2	1	3			
Klettli, F., Wagons	1		3		3			
Klettli, Jno., Saw mill	1		3		3		1	40
Maxen, Dan, Creamery	1		1		1			
Rosche, John, Foundry	1		2		2			
Rosenhelmer, L., Elevator	1		1		1		1	30
Stock Brewing Co.	2		8		8		1	60
Thill, John & Son, Wagons	1		3		3			
Wis. Pipe Organ Factory	1		4		4			
Total	10		27	1	28		3	130

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Rollers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
SCHOFIELD, MARATHON CO.								
Brooks & Ross Lumber Co.	7		250		250	4	5	565
Total	7		250		250	4	5	565
SEYMOUR, OUTAGAMIE CO.								
Brickhart, John, Flour and feed...	1	1	2		2		1	65
Dean Mfg. Co., Repair shop	2		14		14		1	40
Lotter Bros. Mfg. Co., Blacksmith and machine shop	1		2		2			
Newell, S. D., Electric Power Co..	2		1		1		1	100
Seymour Press, Publishing	1		3		3			
Seymour Woodenware	6		9	3	12		1	30
Ziegenbein, Frank, Lumber	3		4		4		1	20
Total	17	1	35	3	38		3	305
SHAWANO, SHAWANO CO.								
Advocate, Publishing	1		1	2	3			
Fox River Soap Co., Soap			7	1	8			
Model Roller Mills	3	1	3		3		1	50
Raddant Brewing Co.	6	1					1	120
Shawano City Mills		1						
Shawano County Journal	1		3	2	5			
Shawano Steam Laundry			1	1	2		1	10
Shawano Light & Water Co.	4		3		3		3	235
Volkshote-Wochenblatt, Publishing	1		3	1	4			
Wolf River Paper & Fiber Co.....	15	2	145	5	150		8	1,200
Total	32	5	166	12	178		14	1,605
SHEBOYGAN, SHEBOYGAN CO.								
Aladdin Soap Co.	4		4	3	7		1	50
Am. Hide & Leather Co., Tannery.	8	1	300		300		5	550
Am. Folding Bed Co.	4	2	50		50		1	100
Am. Mfg. Co.	5	2	204	21	225		2	275
Am. Parlor Frame Co.	2	1	49	1	50			
Amerika Publishing Co.....	1		16	6	22		2	160
Art Furniture Co.	3	1	41		41		1	150
Badger State Tanning Co.....	2	2	217	3	220		5	470
Balzer, John, Carriages and wagons	4		15	1	16		1	50
Biedefeldt, Chas., Brooms.....	1		6	1	7			
City Water Co.	4		10		10		4	450
Columbia Shoe Co.	1		25	7	32			
Crocker Chair Co., A.	10	4	375	50	425		3	510
Crocker Chair Co., B.	5	5	425	50	475		4	700
DeLand, A. D., Mfg. Co., Brew- ery supplies	2		10		10		1	50
Dillingham Mfg. Co.	13	2	200		200		3	295
Ebenreiter & Hildebrand, Lumber	2		7		7			
Excelsior Steam Laundry	3		3	7	10		1	35
Excelsior Wrapper Co.	5		75	6	80	7	3	300
Freyberg Lumber Co.	5		24		24			
Frost Veneer Seating Co.....	6	2	272	3	275	14	3	550

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
SHEBOYGAN—Continued.								
Garton Toy Co.....	8	3	260	15	275	22	2	160
Globe Foundry & Machine Co.....	7		25		25			
George, Grant, Counter Co.....	2		10		10			
Gutsch Brewing Co.....	8	3	60		60		2	125
Herald Publishing Co.....	1		10	14	24			
Jenkins Machine Co.....	6		45		45		1	60
Jung Carriage Co.....	4	1	13		13	1		
Kahlberg, E. P., Laundry.....	3		3	11	14		2	60
King, Arthur, Pianos.....		1	90	1	91			
Kohler, J. M., Sons Co., Plumbers supplies.....	16		265		265		2	160
Landreth, A., Canning Co.....	5		150	40	190		1	160
Meyer Machine Co.....	2		7		7		1	30
Miller, S. H., Piano Co.....	2		30		30		1	40
Mueller Lumber Mfg. Co.....	3	1	50	1	51		1	80
National Demokrat, Publishing.....	1		15		15			
Northern Furniture Co.....	5	4	627	3	630		13	1,100
Ottensburg & Sonnemann, Boiler makers.....	4	2	25	1	26		1	25
Phoenix Chair Co.....	1	8	505	45	550	40	3	600
Port Huron Salt Co.....	3		20		20			
Preussler, R., & Sons, Book cases.....		2	40		40			
Reis, C., Coal Co.....	9	2	134	6	140		6	550
Sellinger-Ross Co., Mfg. gloves.....	2	1	100	250	350	31	2	135
Schreier, Konrad Co., Brewers.....	11	2	50		50		3	375
Sheboygan Brick & Tile Co.....	4		27		27		1	60
Sheboygan Chair Co.....	7	6	435	20	475	29	2	300
Sheboygan Cigar Mold Co.....	6		42		42	7	1	60
Sheboygan Cigar Box Factory.....	1		2	3	5			
Sheboygan Coal Co.....	3		22		22		1	60
Sheboygan Couch Factory.....	1		33	2	35			
Sheboygan Daily Journal, Publishing.....	1		9	8	15			
Sheboygan Fruit Box Co.....	3		10	5	15	4	1	25
Sheboygan Gas Co.....	9		20		20		1	75
Sheboygan Knitting Co.....	6		31	111	142	33	2	200
Sheboygan Light, Power & Railway Co.....	8		60	1	70		3	950
Sheboygan Mineral Water Co.....	4		16	8	24	4	1	40
Sheboygan Novelty Co., Writing desks.....	1	2	65	1	66	2		
Sheboygan Packing Pad Co.....	2		10		10			
Sheboygan Parlor Furniture.....	3	3	87	3	90		3	250
Sheboygan Water Co.....	4		10		10		4	450
Sheboygan Wood Working Co.....	1		6		6			
Sheboygan Volksblatt, Publishing.....	1		3	2	5			
Smith & Nedberg Mfg. Co., Brewery supplies.....	5		23	2	25			
Sheboygan Telegram, Publishing.....	2		8		8			
Sprat, Geo., & Co., Chairs.....	5		113	7	120		1	150
Twig, Otto, Shoes.....	1		17	5	22	1		
Udell, C. E., Cheese bands.....	1		9	9	11	2		
Vollrath, J. J., Mfg. Co., Tinware.....	11	1	325	125	450	46	2	225
Wall & Ross, Mfg. gloves.....		1	100	150	250	37		
Winter, M., Lumber Co., Office fixtures.....	8	1	107	3	110		2	160
Zimball, Oscar, Mfg. brick.....	5		25	1	26		1	75
Zimmermann, Edward, Book bindery.....	2		4	2	6			
Zurheide, F., & Son, Brick yard.....	5		14		14		1	30
Total.....	313	65	6,497	1,011	7,508	279	107	11,246

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
SHEBOYGAN FALLS, SHEBOYGAN CO.								
Ambruster, O., Machine shop.....	3		12		12	1	1	47
Brickner Woolen Mills.....	4	2	80		80		2	125
Falls Machine Co.....	8		78	1	79			
Lumsden Bandage Mfg. Co., Cheese bandages.....	1		2	7	9			
Richardson Bros., Cheese boxes and chairs.....	6		50		50		1	119
Sheboygan County News, Publishing.....	1		4		4			
Sheboygan Roller Mills.....	1	1	4		4			
Thomas, R. H., & Son, Flour mill.....	1	1	4		4			
Wels, Chas., & Co., Tannery.....	6	1	57		57		2	225
White Wagon Works.....	4	1	42		42		1	100
Total	35	6	253	8	261	1	7	609
SHELL LAKE, WASHBURN CO.								
Lake Side Lumber Co.....	4		20		20		1	65
Shell Lake Boat Co.....	7		60	1	61		1	155
Shell Lake Electric Light & Water Co.....	1		2		2		2	160
Shell Lake Milling Co.....	1	1	3		3		1	70
Washburn Co. Register.....	1		2	1	3			
Total	14	1	87	2	89		5	330
SHIOCTON, OUTAGAMIE CO.								
Shiocton Custom Mill, Grist mill.....		1	1		1		1	30
Shiocton News, Publishing.....	1		1	1	2			
Total	1	1	2	1	3		1	59
SHULLSBURG, LAFAYETTE CO.								
Brown Croft Mining Co.....	1		80		80		2	170
Hillary & Co., Feed mill.....	1		2		2			
Imperial Zinc & Lead Mining Co.....	1		6		6		1	80
Little Mike Brewery.....		1	5		5		1	30
Luke, W. H., Cheese.....	1		2		2		1	15
Municipal Water Works.....	1		1		1		1	50
Pick & Gad, Publishing.....	1		1	2	3			
Total	6	1	37	2	39		6	345
SIGNOR, SAWYER CO.								
Signor Saw Mill.....	1		22		22		1	80
Total	1		22		22		1	80

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
SOLDIERS GROVE, CRAWFORD CO.								
Journal, The, Publishing.....	1		2		2			
Keogh Excelsior Mill.....	5		16		16		1	100
Peterson, Atley, Saw mill.....	1		7		7		1	100
Soldiers Grove Creamery.....	1		1		1		1	20
Soldiers Grove Electric Light Co.....	1		1		1		1	100
Soldiers Grove Milling Co.....	1		2		2			
Total	10		29		29		4	320
SOMERSET, ST. CROIX CO.								
Somerset Power Plant.....	1		4		4			
Total	1		4		4			
SOUTH MILWAUKEE, MILWAUKEE CO.								
Bucyrus Company, Steam dredges.....	25	1	1,004		1,004		3	900
Columbia Mineral Wool Co.	3		16		16		2	180
Conant, J. F., Mfg. Co., Baskets....	7	1	95	1	96	3	2	110
Eagle Horse Shoe Co.....	2		300		300	8	3	1,300
Koerner, A. E., Printing.....	1		1		1			
Nirschl, Frank, Contractor.....	1		5		5			
South Milwaukee Journal, Publish- ing.....	1		2	1	3			
South Milwaukee Steam Laundry....	1		2	2	4		1	12
South Milwaukee Water Works.....	1		2		2		2	150
Webster Mfg. Co., Pattern shop....	1		3		3			
Racine Fire Engine Motor Co.....	3		21	1	22			
Stowell Mfg. & Foundry Co.....	17		398	3	401	13	4	400
Yunk, John C., Tannery.....	2		6		6		1	70
Total	65	2	1,915	8	1,923	29	19	3,102
SPARTA, MONROE CO.								
American Cigar Co.....	4		100	300	400		1	20
Bergman Bros., Grist mill.....	1		1		1		1	20
C. & H. Laundry.....	2		3	4	7			
Eckhard, Fred, Elevator.....	3		2		2			
McCoy, B. E., Flour and feed.....	1		1		1			
McEachron, H. E., & Co., Elevator	2		2		2			
Monroe Co. Democrat, Publishing	1		3	1	4			
Newton, J. O., Sons & Co., Light and power.....	2		1		1			
Shattuck Bros., Feed and saw mill	2		4		4		1	15
Sparta Advertiser, Publishing.....	1		2	1	3			
Sparta Co-operative Creamery Co....	1		3		3		1	25
Sparta Herald, Publishing.....	1		3	1	4			
Sparta Iron Works.....	9		11		11		1	20
Sparta Sash & Door Co.....	2		5		5		1	20
Sparta Water Works.....	2		1		1		2	100
Total	34		142	307	449		8	220

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
SPLITROCK, SHAWANO CO.								
Saw & Grinding Mill.....	2		12		12		1	50
Total	2		12		12		1	50
SPOONER, WASHBURN CO.								
Brand, Edward, Flour mill.....		1	3		3			
Johnson, A. C., Planing mill.....	1		6		6		1	50
Spooner Advocate, Publishing.....	1		2	1	3			
Spooner Electric Light Co.....	1		2		2			
Spooner Lumber Co.....	4		12		12		1	40
Spooner Roller Mills.....		1	3		3			
Total	7	2	28	1	29		2	90
SPRINGVALLEY, PIERCE CO.								
Brown Bros., Saw mill.....	1		30		30		1	50
Kohut, J. P., Wagons.....	1		6		6			
New Richmond Roller Mill Co.....	2		3		3			
Springvalley Brick Yard.....	4		25		25		1	60
Springvalley Tile Co.....	17		15		15	2	1	60
Springvalley Creamery.....	1		2		2		1	25
Springvalley Iron Works.....	3		7		7		1	50
Springvalley Ore Smelter.....	17		30		30		7	1,330
Springvalley Stave & Heading Mill.....	5		30		30		5	300
Springvalley Sun, Publishing.....	1		3	2	5			
Tauberg & Sieberne Co., Elevator.....	3		5		5			
Total	55		246	2	248		17	1,305
STANLEY, CHIPPEWA CO.								
Glaaguc, C. M. Saw mill.....	1		30		30		1	50
Northwestern Lumber Co.....	22		625		625	20	7	1,350
Stanley Creamery Co.....	1		3		3		1	25
Stanley Republican, Publishing.....	1		2	1	3			
Stanley Times, Publishing.....	1		2	1	3			
Stanley Water Works.....	1		1		1			
Stanley Wooden Ware Co.....	1		16		16	2	1	60
U. S. Leather Co.....	9		100		100		5	515
Total	37		779	2	781	22	15	575
STETSONVILLE, TAYLOR CO.								
Ellington Lumber Co.....	1		30		30		2	130
La Berge, Albert, Planing mill.....	1		10		10		1	75
Stetsonville Creamery Co.....	1		2		2		1	30
Total	3		42		42		4	235

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
STEVENS POINT, PORTAGE CO.								
Automatic Cradle Mfg. Co.....	2	1	11		11			
Central City Iron Works.....	6		6		6			
Clifford & Fox Lumber Co.....	8		61		61			
Coye Furniture Co.....	8	1	157		157	17	6	330
Frost, J. C., Miss, Trout and bass files.....	1		3	94	97	23		
Gazette, The, Publishing.....	1		5	2	7			
Jackson Milling Co., Flour.....	4	2	15		15			
Jerns Bros., Mfg. tables, etc.....	4	1	33		33	2	2	100
Koshollek, P. F., Gasoline engines.....	2		1		1			
Mitchell, W. W., Grist and saw mill.....	2	1	39		39		2	124
Pfiffner, E. J., Co., Planing mill.....	12		20		20		1	100
Plover Paper Co.....	5	2	117	73	220		4	100
Racine Underwear Co.....	2		2	23	25			
Rice, John, Foundry.....	4		24		24			
Rolnik, The, Publishing.....	1		8	3	11			
Stevens Point Bottling Works, Soda water.....	1		2		2			
Stevens Point Box Co., Boxes.....	7		25		25		1	120
Stevens Point Brewing Co.....	7	1	17		17		2	100
Stevens Point Gas Co.....	2		3		3			
Stevens Point Lighting Co.....	5		6		6		3	240
Stevens Point Journal, Publishing.....	1		6	2	8	1		
Stevens Point Tannery Co.....	1		3		3			
Stevens Point Water Co.....	1		2		2		2	150
Vetter Mfg. Co., Sashes, doors, mouldings.....	10		28		28		1	35
Weeks, John, Lumber Co.....	11		108		108		4	300
Western Wall Paper Mill.....	3		40	12	52	8	1	100
Wisconsin Best Steam Laundry.....	2		4	23	32		1	40
Wisconsin Paper & Pulp Co.....	9		157	12	179		4	340
Total	122	9	943	249	1,192	51	35	2,399
STODDARD, VERNON CO.								
Hanesworth, J. H., Planing mill.....	1		1		1		1	45
Stoddard Roller Mills.....	1		2		2			
Stoddard Times, Publishing.....	1		1		1			
Stokke, J. O., Planing mill.....	1		1		1		1	13
Total	4		5		5		2	57
STOUGHTON, DANE CO.								
American Cigar Co.....		1	106	136	242	3		
American Leaf Tobacco.....	1		85	100	185	9	1	65
Amundson, Peter, Machine shop.....	1		2		2			
City Water Works.....	1		2		2		2	140
Cohn, J., & Co., Leaf tobacco.....	1		55	20	75			
Davis, J. H., Milk.....	1		2		2		1	5
Dearborn, C. L., Flour mill.....	2	1	7		7			
Gunderson, Osmund, Leaf tobacco.....	1	1	5	12	17	2		
Hintz, C. M., Tobacco warehouse.....	1		20	25	45			
Holton & Co., Tobacco warehouse.....	1		25		25			
Lee, O. C., Tobacco warehouse.....	1		25	15	40			
Lee, Simon, Marble Works.....	1		2		2			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
STOUGHTON—Continued.								
Mandt Wagon Co.....	23	4	359	3	402	2	3	330
Midgard, A., Publishing.....	1		2		2			
Municipal Water, Light & Electric Station.....	1		2		2		3	290
Peterson, L. A., Wagons, carriages.....	1		4		4			
Roe, O. K., Tobacco warehouse.....	1		15	35	50			
Rosenroald Bros. & Roe, Leaf tobacco.....	1		20	40	60	2	1	5
Serstand, Andrew, Milk establishment.....	1		3		3			
Simonson & Grindahle, Leaf tobacco.....	1		25		25			
Stoughton Courier, The, Publishing.....	1		3		3			
Stoughton Hub, Publishing.....	1		3	2	5			
Stoughton Mill Co.....	1	2	5		5			
Stoughton Shoe Co., Mfg. men's shoes.....	1		16	5	21			
Stoughton Steam Laundry.....	1		2		2		1	12
Stoughton Wagon Co.....	22	1	183	2	185		2	225
Vijjem, L., Contractor.....	1		1		1			
Vinjem, L. N., Door sash.....	1		5		5			
Total	71	10	1,024	397	1,421	18	14	1,122
STURGEON BAY, DOOR CO.								
Advocate, Publishing.....	1		6	2	8			
Door Co. Democrat, Publishing.....	1		8	4	12			
Hunsader Machine Co.....	3		4		4			
Ives Bros., Machine shop and foundry.....	2		3		2			
Pankratz, Geo., Saw and shingle mill.....	7		60		60		5	230
Reynolds Preserving Co., Boxes.....	3		6		6		1	20
Reynolds Preserving Co., Canning pees.....	11		350	50	400	30	3	250
Rieboldt & Wolters, Ship builders.....	3		50		50		1	120
Sturgeon Bay Boat Co.....	3		22		22		1	20
Sturgeon Bay Brewery.....	5		9		9		1	5
Sturgeon Bay Electric Light Plant.....	1		5	1	6		1	330
Sturgeon Bay Steam Laundry.....	1		1	2	3		1	15
Tutis & Brandisc, Elevator.....		1	2		2			
Washburn Lumber Co.....	4		15		15		1	60
Total	51	1	540	59	599	30	15	1,080
SUN PRAIRIE, DANE CO.								
Colleney & Co., Tobacco warehouse.....	1		19	60	79			
Rendahl, J. K., & Co.....	1		30	55	85			
Total	2		49	115	155			
SUPERIOR, DOUGLAS CO.								
Allouez Bay Dock Co., Ore dock.....	3		200		200	1	2	200
Amenia Sharn Land Co., Elevator.....	2		8		8			
American Bedding Co.....	6		20	6	26		1	50
American Heating Co., Shop.....	1		17		17		10	910
American Ship Building Co.....			14		14			
Armstead Laundry.....	1		7	20	27		1	60

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
SUPERIOR—Continued.								
Belt Line Elevator Co.....	2		35		35		3	325
Bing Lam Woodenware Co.....	1		5		5			
Buffalo Oil Co.....	1		8		8			
Builders Concrete Cast Stone Co....	1		10		10			
Cargill Elevator Co.....	2	2	35		35		3	375
Carlson Bros., Roofing.....	1		7		7			
Caleson, B., Shingle mill.....	1		12		12	1	1	90
Cowdin, H. F., Sash and doors.....	3		25		25		2	120
Cowdin, H. F., Woodworking.....	2		40		40		2	100
Daisy Mill, Flour mill.....	2	2	15		15		5	1,250
Downs, D., Patterns.....	1		7		7			
Duffy, J. A., Carriages, wagons.....	1		5		5			
Duluth, Superior Traction Co.....	1		5		5		3	450
Dunn Co. Iron Works.....	2		6		6		1	155
Duplex Mfg. Co., Windmill factory.....	12		125		125		3	230
Evening Telegram, Publishing.....	1		31	2	33			
Fitzpatrick & Erickson, Woodwork- ing.....	1		4		4			
Frankman Bros., Pile drivers.....	1		75		75			
Geyser Bottling Works.....	1		4		4			
Great Lakes Dredging & Contracting Co.....	5		30		30		2	80
Great Northern Bottling Works.....	1		3		3		3	175
Great Northern Ry., Coal docks.....	6		70		70		5	1,150
Great Northern Ry., Elevators.....	9		63		63			
Great Northern R. R. Co., Rail-road shops.....	11		416	4	420		3	800
Great Northern R. R. Co., Dock house and shops.....	2		25		25			
Globe Elevator Co.....	7		50		50		6	350
Hall Elevator Co.....	1	1	5		5		2	150
Hanna, M. A., Coal Dock Co.....	5		100		100		3	755
Holmes Bros., Roofing, etc.....	1		15		15			
Hotel Superior, Power house.....	1		4		4		3	240
Joos & Osmundson, Woodworking.....	1		20		20			
Klinkert Brewing Co.....	1		6	1	7		2	100
Lehigh Valley Coal Co.....	13		60		60		2	150
Lund, Anthony, Bicycles.....	1		2		2			
Listman Mill, Flour mill.....	2	2	00		00		4	600
Mast, R. C., Book bindery.....	1		7	1	8			
Murray & McCann Lbr. Co.....	3		20		20		1	40
Natl. Boiler Works Co.....	1		75		75		5	250
N. W. Boiler Works.....	1		30		30			
Northern Brewing Co.....	2	3	17		17		2	160
Northern Coal Dock Co.....	5		60		60		2	400
Northern Coal Railway Co.....	8		80		80		6	400
Northern Fuel Co.....	16		210		210		4	400
Northern Fuel Co.....	4		75		75		3	260
Northern Fuel Co.....	3		35		35		1	150
Northern Fuel Co.....	5		120		120		6	900
Northern Machine Works.....	1		7		7		1	25
Pellister, C. D., Woodworking.....	1		5		5			
Penn, Wm., Stone Co.....	9		90		90		2	205
Philadelphia & Reading Coal Co.....	4		60		60		4	500
Pittsburg Coal Co.....	5		75		75		4	300
Pittsburg Coal Co.....	6		00		00		6	345
Pittsburg Coal Co.....	2		30		30		4	600
Republic Elevator Co.....	2	2	15		15		2	400
Rogers & Ruger, Planing mill.....	2		25		25		1	00
Rogers & Ruger Lumber Co.....	4		40		40		1	195
Ross, J. S., Co., Elevator.....	1	1	6		6			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.			Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	Total h. p.
SUPERIOR—Continued.							
Roberts, G. W., Roofing, etc.....	1		4		4		
St. Paul & Western Coal Co.....	4		160		150	3	150
Shunn, W. H., Contractor.....	1		10		10		
Standard Oil Co.....	5		10		10	1	40
Superior Bedding Co.....	5		15	6	21	1	65
Superior Boiler Works.....	1		6		6		
Superior Broom Works.....	1		2		2		
Superior Co-operative Barrel Co.....	1		12		12		
Superior Crushed Rock Co.....	2		50		50	2	120
Superior Fifth Wheel & Forge Co..	1		15		15		
Superior Iron Works.....	1		25		25		
Superior Mfg. Co., Building material, etc.	9		55	5	60	1	75
Superior Tidende, Publishing.....	1		3		3		
Superior Light, Water & Power Co.	2		10		10	4	716
Superior Light, Water & Power Co.	6		11		11	5	500
Silver, Tonsberg & Co., Printing.....	1		6	2	8		
Strothman Iron Co., Iron works....	2		20		20	1	176
U. S. Gypsum Co.....	7		12		12	1	15
U. S. Pipe Co., Pipe foundry.....	8		60		60	1	150
Webster Mfg. Co., Chairs.....	10	4	236	29	314	5	425
Wilcox, D. B., Woodworking.....	1		5		5		
Wright's Foundry & Machine Works	2		30		30	1	15
Total	275	13	3,662	75	3,737	33	16,911
SURING, OCONTO CO.							
Cargill Grain Co., Elevator.....		1	2		2		
Total		1	2		2		
THERESA, DODGE CO.							
Riverside Cheese Factory.....	1		1		1	1	5
Theresa Milling Co.....		1	3		3	1	67
Union Brewery	1		3		3	1	13
Weber, Jeb, Brewery.....	1		3		3	1	30
Total	3	1	10		10	4	108
THORP, CLARK CO.							
Boardman, D. A., Saw mill.....			10		10	1	87
City Light & Water Plant.....			2		2	2	85
Colby Bros., Lumber and flour.....	1		12		12	1	50
Hansen, N. B., Farm implements.	1		5		5		
Nelson & Brummer, Wagons	1		2		2		
Nye, Lusk & Hudson, Saw mill	1		25		25	2	80
Thorp Courier, Publishing	1		1		1		
Thorp Mfg. Co., Stave and heading mill	4		25		25	2	150
Vance, J. A., Grain elevator	1		3		3	3	445
Total	12		55		85	16	800

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total h. p.
TIGERTON, SHAWANO CO.								
Diels, C. J., Grain elevator	1		2		2			
Tigerton Chronicle, Publishing	1		2		2	1		
Tigerton Lumber Co., Saw mill	1		60		60		2	100
Total	3		64		64	1	2	100
TOMAH, MONROE CO.								
C. M. & St. P. Ry., Carpenter shops	7		86		86		2	175
Clark, W. H., Feed mill	2		2		2		1	20
Crossett Mfg. Co., Contractors	5		21		21		1	30
Farmers' Co-op, Butter Association	4		2		2		1	30
Goodyear, C. A., Saw and planing mill	17	1	142		142		5	520
Hill & Reynolds Mfg. Co., Contractors	4		12		12	1	1	30
Schultz, W. H., Flour and feed mill	3		4		4		1	45
Tomah Iron Works	2		5		5			
Tomah Journal, Publishing	1		2	1	3			
Tomah Monitor, Publishing	1		4		4		1	8
Tomah Steam Laundry	1		2	2	4		1	20
Tomah Water Works	1		2		2		1	175
Total	48	1	284	3	287	1	15	1,033
TOMAHAWK, LINCOLN CO.								
Oelhafen, John, Saw and planing mill	9		90		90		4	450
Tomahawk, The, Publishing	1		2	2	4			
Tomahawk Iron Works	6		20		20		1	50
Tomahawk Leader, Publishing	1		2	2	4			
Tomahawk Lumber Co.	6		130		130		4	700
Tomahawk Pulp & Paper Co.	24		74		74	2	5	720
Tomahawk Stave & Veneer Co.	3		35		35	4	2	140
Tomahawk Woodenware Co.	5		40		40	6	2	160
U. S. Leather Co., Tanning	10		101		101	3	3	450
Total	65		494	4	498	15	21	2,680
TURTLE LAKE, BARRON CO.								
Northern Grain Co., Elevator	1		4		4			
Turtle Lake Creamery Co.	1		2		2		1	20
Total	2		6		6		1	20
TWO RIVERS, MANITOWOC CO.								
Aluminum Mfg. Co., Al. novelties	7		95	45	140	15	1	100
Becker Mfg. Co., Iron Foundry	3		7		7		1	15
Chronicle, The, Publishing	1		4	1	5			
Eggers, F., Veneer Seating Co.	9	2	165		165	16	2	195
Hamilton Mfg. Co., Printers' supplies	15	5	487	38	525	26	6	725
Kahlenburg Bros., Gasoline engines	3		25		25			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
TWO RIVERS—Continued.								
Kowella W., Boats	2		3		3		1	30
Mueller Brewing Co.	3		7		7	1	1	30
Nelson Lumber Co., Planing mill...	3		7					
Reporter, The, Publishing	1		2	2	4	1		
Schroeder Bros., Grist mill	1	1	4		4		1	80
Two Rivers Knitting Co.	4		4	21	25	10	1	80
Two Rivers Steam Laundry	2		2	3	5		1	15
Two Rivers Waterworks	2		3		3		2	350
Two Rivers Woodenware Co.	21	2	315	10	325	37	8	800
Vandernill, E. J., Canning Co.	10		138	72	210	27	2	160
Zulu Knitting Co.	2	1	2	22	24	8	1	30
Total	94	11	1,270	214	1,484	141	28	2,610
UNIONGROVE, RACINE CO.								
Blehn, F. J., Creamery	1		3		3		1	30
Blakey, J. G., Feed and Flour Mill	1		9		9		1	30
Minton, F. M., Blacksmith shop...	1		1		1			
Total	3		13		13		2	110
UNITY, MARATHON CO.								
Fritz & Fry, Veneer and cheese box factory	5		42		42	2	3	135
Total	5		42		42	2	3	135
VIOLA, RICHLAND CO.								
Curry, R. C., Flour and Feed	1		2		2			
Cushman, E. R., Flour and Feed...	2		2		2			
Intelligencer, Publishing	1	1	1	1	2			
Selle Excelsior Co.	3		15		15			
United Cigar Mfg. Co.	1		50	38	88	1	1	70
Total	8		50	39	89	1	1	70
VIROQUA, VERNON CO.								
Bekkedahl, M. H., Leaf tobacco ...	1		10	45	55			
Cargill Co., W. W., Elevator	1	1	1		1			
Eckhardt, Fred, Leaf tobacco	1		20	40	60			
Helgeson, Ole, Leaf tobacco	1		2	32	34			
Riley, John, Planing mill	1		2		2			
Vernon Co. Censor, Publishing	1		3	1	4			
Vernon Co. Lender, Publishing	1		1	2	3			
Viroqua Elec. Light Co.	1		8		8		2	160
Viroqua Republican, Publishing	1		3	1	4			
Total	8	1	51	121	172		2	160

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WABENO, FOREST CO.								
Jones, G. W., Lumber Co.	3		75		75		3	200
Menominee & Bay Shore Lumber Co.	10	1	100		100		6	750
Wabeno Lumber Co.	1		25		25		1	100
Total	14	1	200		200		10	1,050
WALWORTH, WALWORTH CO.								
Chicago, Harvard & G. Lake Ry. Co.	1		16		16		4	800
Concrete Product Co., Concrete blocks	2		2		2			
Merriam, W. B., Feed Mill	1		3		3			
Milwaukee Elevator Co.	1		2		2			
Vaughn & Bushnell Mfg. Co., Hand hammers	3		20	1	21			
Walworth Condensed Milk Co.	1		6		6		2	170
Total	9		49	1	50		6	970
WASHBURN, BAYFIELD CO.								
Akely & Sprague, Planing mill	3		25		25		1	100
C. St. P., M., & O. Ry. Co., Elevator	3	1	40		40		2	300
Hines Lumber Co.	7		220		220	1	16	1,300
Kentfield & Lameroux, Box factory	4		64	1	65	6	1	60
Northwestern Fuel Co.	3		50		50		2	100
Steinert & Co., R., Machine shops.	1		3		3		1	15
Times, The, Publishing	1		2	1	3			
Washburn Brewing Co.	10		6		6		1	20
Washburn Electric Light & Power Co.	1		3		3		3	400
Washburn News & Itemizer, Publishing	1		3	1	4			
Washburn Steam Laundry	1		2	2	4			
Total	35	1	418	5	423	7	27	2,205
WATERLOO, JEFFERSON CO.								
Drew Elevated Carrier Co.	1		7		7			
Fountain Creamery, The	2		4		4		1	30
McCracken Bros., Elevator	3		1		1			
Roach, Seeber Co., Elevator	1		1		1			
Waterloo Canning Factory	3		22	8	30		1	80
Waterloo Democrat, Publishing	1		3	2	5			
Waterloo Electric & Milling Co.	2		2		2		2	230
Waterloo Journal, Publishing	1		1	2	3			
Waterloo Malting Co.	2	1					2	100
Waterloo Roller Mills, Grist mill ..	1	1	2		2			
Total	16	2	13	12	55		6	440

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WATERTOWN, JEFFERSON CO.								
American Malt & Grain Co.	4	4	21		21		3	300
American Cigar Co.	2		60	140	200	8		
Archle Bros., Monuments	1		8		8			
Badger State Co., Beverages	1		8		8			
Beals & Torrey Shoe Co.	2		75	25	100	5		
Brandt-Dent Co., Brass fixtures		1	50		50			
Befeldt, Otto, Co., Boilers	1		10		10			
City Water Works	2		3		3		2	165
Cordes, L. H., & Co., Brick	2		30		30	3	3	73
Dornfeld, Kunert Co., Boilers	9		80		80		1	126
Drew Mfg. Co., Manure spreaders	1		3		3			
Globe Milling Co., Flour mill	3	2	16		16		2	250
Hartig, Wm. Co., Brewery	9	3	29		29		3	220
Henry, Ira L. Co., Paper boxes	2	1	20	80	100	12	1	40
Hopkins Mfg. Co., Foundry	1		10		10		1	40
Jahnke Creamery Co.	3		9	1	10		1	40
Kehr Bros., Machinery	1		2		2			
Koenig, R. P. & Co., Flour mill	4	2	7		7		1	80
Lennerhirt, H., Cooperage	1		10		10			
Lewis, G. B. Co., Beekeepers' supplies	3	1	83	7	90	1	2	130
New Method Laundry	1		3	3	6	1	1	8
Republican, Publishing	1		3		3			
Watertown Concrete Bldg. Block Co.	1		4		4			
Watertown Electric Co.	2		5		5		3	300
Watertown Gas Co.	5		4		4		1	25
Watertown Gazette, Publishing	1		3		3			
Watertown Novelty Works, Office fixtures, etc.	1		4		4			
Watertown Steam Laundry	2		3	5	8			
Watertown Table Slide Co.	4		17	1	18	3	1	40
Watertown Times, The, Publishing	1		19	1	20			
Watertown Waterworks	1		2		2		2	400
Wells, M. D., Shoe Co.	4		100	50	150	20		
Weltburger Printing Co.	1		6		6			
Wiens, A. R., Brush Co.	4		38	4	40	5	1	40
Total	81	14	742	317	1,059	58	29	2,270
WAUKESHA, WAUKESHA CO.								
Almanara Mineral Spring Co.	1		5		5	3	1	10
Anderson, W. H., Mineral water	1		2		2		1	4
Arendlan Mineral Springs		1	15		15		1	30
Bethesda Mineral Springs	1		14		14	4	1	15
Blair Bros., Mfg. Co., Foundry	2	1	7		7			
Crystal Mineral Springs Co.	1		8		8		1	20
Glen Rock Mineral Springs Co.	1		4		4		1	8
Globe Elevator Co.		1	2		2		1	40
Griffin, E. A. Feed mill	1		3		3			
Guthrie, F. R., & Son, Flour mill	1		4		4			
Hank, Min. Spring Co.	1		8		8		1	9
Hoag & Rankin Feed Co.	1		2		2			
Jones, K., Mfg. Co., Wagon and sleigh fixtures	1		3		3		1	8
Kent Lubricating Co., Grease	1		3		3			
Ladewig, W. E., Machine shop	1		6		6	1	1	20
Merton Bros., Publishing	1		5	1	6			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WAUKESHA—Continued.								
Milwaukee Elec. Ry. & L. Co.	1		5		5		3	400
Milwaukee, Waukesha Brewing Co.	2	1	48	17	59	2	2	200
Modern Steel Structural Co.	2		140	2	142	5	2	200
Morrrows' Laundry	1		2	1	3			
National Water Co., Mineral water	2	1	66		66		1	40
Palace Laundry	1		1	6	7		1	25
Saratoga Mills, Flour and feed	1	1	4		4			
Silurian Min. Spring Co.	5		9		9			
Sing, Lee, Laundry	1		2		2			
Spring City Laundry	1		2	8	10		1	15
Thomas Press, The, Publishing.	1		3		3			
Waukesha Brewery Co.	8	1	64	38	100	2	2	200
Waukesha Canning Co.	3		66	65	131	31	4	200
Waukesha Concrete Block Co.	1		7		7		1	30
Waukesha Despatch, The, Publish- ing	1		3	1	4	1		
Waukesha Expanded Metal Co.	1		8		8			
Waukesha Freeman, The, Publish- ing	1		4	1	5	1		
Waukesha Gas & Electric Co.	2		15		15		2	100
Waukesha Grain & Produce Co., Feed Mill	1		4		4		1	30
Waukesha Lime & Stone Co.	1	1	130		130	10	2	200
Waukesha Malleable Iron Co.	2		222	18	240	11	3	210
Waukesha Mfg. Co., Boxes, sashes, doors	1		9		9		1	15
Waukesha Motor Co., Auto. repairs	1		3		3			
Waukesha Roxo Mineral Springs.	1		1		1		1	4
Waukesha Stone & Quarry Co.	2		32		32		1	80
Waukesha Waterworks	1		5		5		2	225
Weber Brewery Co.	2	1	15		15		1	40
Wilbur Lumber Co.	4		65		65	2	2	130
Wis. Butter & Cheese Co.	1		6		6		1	30
Total	67	9	1,024	156	1,190	71	44	2,715
WAUNAKEE, DANE CO.								
Coldwell & Neill, Elevator	1		3		3			
Waunakee Creamery	1		2		2			
Total	2		5		5			
WAUPACA, WAUPACA CO.								
Central Lumber Co.	10		6		6			
City Mills, Feed mill	1		2		2			
City Waterworks	1		1		1			
Crescent Roller Mills, Flour	1		2		2			
Hanson, A. M., Planing mill	2		10		10		1	40
Nelson, A. G., & Co., Planing mill	8	2	6		6			
Republican, The, Publishing	1		3	2	5			
Trachte, Wm., Butter	1		2		2		1	80
Union Starch Co.	4		10		10		1	40
Waupaca Elec. Light & Ry. Co.	2		7		7		2	100
Waupaca Foundry	4		3		3		1	10
Waupaca Hat Factory	1		9	6	14			

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WAUPACA—Continued.								
Waupaca Post, The, Publishing	1		6	1	7			
Waupaca Record, The, Publishing	1		4		4			
Waupaca Roller Mills, Flour and feed	1	1	6		6			
Waupaca Woolen Mills	2		10	5	15			
Wisconsin Granite Co.	1		39		39		1	130
Total	12	3	116	14	130		7	410
WAUPUN, FOND DU LAC CO.								
Althouse-Wheeler Co., Windmills, etc.	14		20		30		1	90
Breyer, Whiting & Co., Windmills, etc.	2		6		6		1	30
Kalo, John, Brewery	3	2	4		4		1	40
Kohl, L. P., Flour and feed	1	1	2		2			
Morris, J. S., Carriage Co.	3	1	25		25			
Olson, Ole, Plows, etc.	3		3		3		1	6
Palma Shoe Co.		1	56	22	78	7	1	30
Paramount Knitting Co.	1		5	48	53			
Shaler-Hartgerink Co., Umbrellas ..	1		30	20	50			
Troy Steam Laundry	1		2	4	6			
Waupun Democrat, The Publishing ..		1	3	1	4	1		
Waupun Elec. Light & Water Co.	1		4		4		3	150
Waupun Democrat, The, Publishing ..		1	3	1	4	1		
Wisconsin Malt & Grain Co.		1	2		2			
Zimmermann, F. F., & Sons, Wagons	4		20		20			
Total	35	7	196	96	291	15	9	220
WAUSAU, MARATHON CO.								
Badger Laundry	1		2	13	15	2	1	20
Barker & Steward, Saw mill	13		240		240		12	1,500
Central Wis. Publishing	1		4		4			
Chicago Excelsior Co.	4		16		16			
Covey, Wm., Soda water	1		2		2			
Curtis & Yale, Sash, doors, mouldings	12	2	335	4	339	45	8	300
Curtis & Yale, Siding, flooring, ceiling	6	2	70		70	3	2	200
Goodwillie Bros., Mfg. boxes	5		130	8	138	15	4	360
Heinke, B., Machinist	1		1		1			
Hirsch, Max, Saw and planing mill ..	6		5		5		1	40
Karas, L., Machinist	1		2		2		1	10
Kickbusch Roller Mills	3	1	3	1	9		1	80
Janke & Weise, Bar and store furniture	4		17		17		1	70
Loewenthal & New Co., Excelsior ..	5		13		13		1	100
McEachron, H. E., Flour mill	4	2	29		20			
Marathon Co. Dairy Co.	3		5		5		1	25
Marathon Granite Co., Monuments ..	3		58	2	60		1	50
Mathie Brewing Co.	6	2	14	1	15		1	100
Meisner, H., & Sons, Monuments ..	3		3		3			
Mortenson Lumber Co.	13		75		75		4	350
Murray, J. D., Mfg. Co., Saw mill machinery	10	1	92	2	94		1	65

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WAUSAU—Continued.								
Northern Milling Co., Flour.....	5	1	8	.....	8	.....	1	100
Philosopher Press, Publishing.....	1	.....	1	1	2	.....	.....	.....
Rommel Bros., Soda water.....	1	.....	2	.....	2	.....	.....	.....
Ruder, Geo., Brewing Co.....	4	3	16	.....	16	.....	3	250
Steward, Alexander, Lumber Co.....	9	.....	260	.....	260	1	4	400
Stolze, Paul F., Bookbindery and publishing.....	1	.....	6	3	9	.....	.....	.....
Underwood Veneer Co.....	15	.....	169	.....	169	24	5	320
United States Leather Co.....	13	.....	60	.....	60	.....	2	200
Wausau Box & Lumber Co.....	10	.....	123	.....	123	15	2	200
Wausau Canning Co.....	7	.....	60	20	80	.....	2	120
Wausau Cigar Box Factory.....	1	.....	1	5	6	.....	.....	.....
Wausau Daily News, Publishing.....	1	.....	7	.....	7	.....	.....	.....
Wausau Daily Record, Publishing.....	1	.....	10	.....	10	.....	1	5
Wausau Electric Co., Light and power.....	2	.....	3	.....	3	.....	4	540
Wausau Foundry & Machine Shop.....	2	.....	12	.....	12	.....	1	30
Wausau Gas Co.....	4	.....	4	.....	4	.....	2	12
Wausau Herald, Publishing.....	1	.....	5	3	13	2	.....	.....
Wausau Laundry Co.....	1	.....	5	19	23	.....	1	20
Wausau Novelty Co.....	3	.....	63	.....	63	10	2	115
Wausau Pilot, Publishers.....	1	.....	6	1	7	.....	.....	.....
Wausau Quartz Co., Quartz sand.....	5	.....	7	.....	7	.....	1	40
Wausau Sand Paper Co.....	4	.....	24	6	30	4	1	60
Wausau Water Works.....	2	.....	4	.....	4	.....	2	300
Wausau Wochenblatt, Publishing.....	1	.....	3	1	4	1	.....	.....
Werhelm Mfg. Co., Sash, doors, blinds.....	5	.....	61	.....	61	2	2	130
Wheeler Timlin Lumber Co.....	6	.....	20	.....	20	.....	1	50
Wisconsin Box Co.....	7	.....	54	1	55	5	2	250
Total	221	14	2,101	95	2,256	129	79	7,044
WAUTOMA, WAUSHARA CO.								
Municipal Gas Co., Light.....	1	.....	1	.....	1	.....	.....	.....
Northern Grain Co., Elevator.....	1	.....	5	.....	5	.....	.....	.....
Waushara Argus, Publisher.....	1	.....	3	1	4	.....	.....	.....
Wautoma Creamery Co.....	1	.....	1	.....	1	.....	1	12
Wautoma Bottling Works.....	1	.....	2	.....	2	.....	.....	.....
Wautoma Milling Co., Flour.....	1	.....	3	.....	3	.....	.....	.....
Total	6	.....	15	1	16	.....	1	12
WAUWATOSA, MILWAUKEE CO.								
Burnham Bros., Brick yard.....	6	.....	125	.....	125	10	3	225
Gettelman Brewing Co.....	9	5	74	.....	74	1	3	240
Gillette Leather Co., Tannery.....	2	1	29	.....	29	4	2	150
Johns, H. W., & Manville Co., Magnetic and asbestos goods.....	4	1	172	3	175	1	9	1,350
Kraatz, Chas., Brick yards.....	5	.....	70	.....	70	.....	2	195
Lenz, Adolph, Sash and doors.....	6	.....	40	.....	40	1	1	100
Lindemann, J. P., & Son, Tinware.....	2	1	12	7	19	7	1	80
Manegold, A. F. & L., Stone quarry.....	4	.....	18	.....	18	.....	1	75
Milwaukee County Farm & Alms House, Power plant.....	1	.....	5	.....	5	.....	3	300
Milwaukee County Farm & Alms House, Steam laundry.....	1	.....	2	4	6	.....	.....	.....

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WAUWATOSA Continued.								
Milwaukee County Hospital, Steam laundry	2		5	2	7		2	165
Milwaukee County Hospital, Power plant	1		6		6		4	325
Miller, Fred, Brewing Co.	15	3	224	23	312	22	6	1,365
Monarch Stone Co., Stone quarry ..	6		49		49		2	175
Northwestern Chemical Co.	1		4		4		1	80
Wauwatosa Milling, Fuel & Lumber Co., Elevator and feed mill ..		1	5		5			
Wauwatosa News, Publishing.	1		1		1			
Wauwatosa Water Works.	1		1		1		2	120
Total	70	11	599	41	943	46	42	4,690
WEST ALLIS, MILWAUKEE CO.								
Allis Chalmers Co., Mach. works.	15	2	4,000		4,000		5	1,750
Kerney & Fecker, Machine tools.	2		90		90		1	60
Milwaukee Electric Co., Electric machines	3		250		250		3	330
Milwaukee Light, Heat & Traction Co., Electric machinery.	1		3		3		2	200
Prescott, Fred M., Steam Pump Co.	7	1	195	2	200		2	160
Radcliffe & Porter Mfg. Co., Sash, doors, etc.	4		15		15	1		
Rosenthal Corn Husker Co.	2	1	20		20			
Tobin & Gerlinger, Foundry.	1		15		15		1	25
West Allis Malleable Iron & Chain Belt Co.	5		150		150	25	2	120
Total	40	4	4,744	2	4,746	26	16	2,625
WEST BEND, WASHINGTON CO.								
Benes Gohl Mfg. Co., Repairs	3		20		20	1	1	90
Enger Kress Pocket Book Co.	2		65	65	130	9		
Kuehlthau, Adam, Electric light plant	2		3		3		1	100
Schmidt & Stork, Wagons.	4		30		30		1	45
Silberzahn Bros., Machine shop		1	5		5			
West Bend Brewing Co.	9	5	30		30		3	240
West Bend Knitting Mills.	1		12	28	40			
Total	21	6	165	93	258	10	6	460
WESTBORO, TAYLOR CO.								
Frank, August, H., Woodworking	1		3		3		1	35
Westboro Lumber Co.	6		150		150	5	7	370
Total	7		153		153	5	8	405

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WESTBY, VERNON CO.								
Bekkédahl, M. H., Leaf tobacco ..	1	.....	25	30	55	.....	.....	.....
Cargill, W. W., Co., Elevator .....	.....	1	1	.....	1	.....	.....	.....
Haakenson Bros., Mfg. boxes	2	.....	5	.....	5	.....	1	20
Shannon, Chas., Leaf tobacco	1	.....	27	25	52	.....	.....	.....
Thoreson, Theodore, Planing mill..	5	.....	5	.....	5	.....	1	50
Westby Co-op. Creamery	2	.....	1	.....	1	.....	1	20
Westby Electric Light Plant	1	.....	1	.....	1	.....	1	100
Westby Times Publishing	1	.....	2	.....	2	.....	.....	.....
Total	13	1	67	56	123	.....	4	130
WESTFIELD, MARQUETTE CO.								
Central Union, Publishers	1	.....	2	.....	2	.....	.....	.....
Cochen, T. H. & Co., Feed mill ..	1	.....	1	.....	1	.....	.....	.....
Westfield Creamery Co.	1	.....	1	.....	1	.....	1	13
Westfield Milling & Electric Light Co.	1	.....	3	.....	3	.....	.....	.....
Total	4	.....	7	.....	7	.....	1	13
WESTON, DUNN CO.								
Davis & Star Lumber Co.	1	.....	65	.....	65	.....	3	150
Total	1	.....	65	.....	65	.....	3	150
WEST SALEM, LA CROSSE CO.								
Neshono Light Co., Light and feed mill	1	.....	2	.....	2	.....	.....	.....
West Salem Co-op. Creamery	3	.....	4	.....	4	.....	1	20
West Salem Nonpareil Journal	1	.....	1	2	3	.....	.....	.....
Total	5	.....	7	2	9	.....	1	20
WEYAUWEGA, WAUPACA CO.								
Baldwin Creamery Co. ....	.....	1	3	.....	3	.....	1	12
Northrup Dental Burr Co.	1	.....	6	.....	6	.....	.....	.....
Weed & Gumaer Mfg. Co., Flour ..	.....	2	5	.....	5	.....	.....	.....
Weed & Gumaer Mfg. Co., Planing ..	.....	4	4	.....	4	.....	.....	.....
Weyauwega Chronicle, Publishing ..	.....	1	1	3	4	.....	.....	.....
Weyauwega Co-operative Creamery Co.	1	.....	2	.....	2	.....	1	20
Weyauwega Electric Light Co.	1	.....	2	.....	2	.....	.....	.....
Weyauwega Roller Mills, Flour	1	.....	3	.....	3	.....	.....	.....
Total	6	4	26	3	29	.....	2	32
WEYERHAUSER, RUSK CO.								
Banner Wagon Co. ....	.....	.....	25	.....	25	.....	1	30
Soo Ry., Round house and shop	2	.....	10	.....	10	.....	1	40
Total	4	.....	35	.....	35	.....	2	70

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Build'gs.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WHITCOMB, SHAWANO CO.								
Whitcomb Lumber Co.	1	.....	35	.....	35	.....	4	160
Total	1	.....	35	.....	35	.....	4	160
WHITEHALL, TREMPLEAU CO.								
Cargill, W. W. Co., Elevator .....	.....	1	1	.....	1	.....	.....	.....
Stelg & Torgerson, Elevator	1	.....	1	.....	1	.....	.....	.....
Whitehall Creamery Ass'n	1	.....	2	.....	2	.....	1	20
Whitehall Elec. Light Plant	1	.....	1	.....	1	.....	.....	.....
Whitehall Flouring Mill .....	.....	1	2	.....	2	.....	.....	.....
Whitehall & Pigeon Trading Ass'n Elevator	1	.....	1	.....	1	.....	.....	.....
Whitehall Times, Publishing	1	.....	3	.....	3	.....	.....	.....
Wood, D., Elevator	1	.....	1	.....	1	.....	.....	.....
Total	6	2	12	.....	12	.....	1	20
WHITEWATER, WALWORTH CO.								
Borden, F. G. & Co., Leaf tobacco .....	.....	.....	32	46	78	.....	.....	.....
Klinger, W., Brewery	5	2	4	.....	4	.....	1	30
New Method Laundry	1	.....	1	2	3	.....	1	15
Nonpareil Creamery	1	.....	2	.....	2	.....	1	24
Quill & Shepard, Elevator and feed mill .....	.....	1	5	.....	5	.....	.....	.....
Stone Mill Co., Flour and feed	1	1	3	.....	3	.....	.....	.....
Taft, W. J., Machine shop	1	.....	2	.....	2	.....	.....	.....
Union Produce Co., Creamery	1	1	4	.....	4	.....	1	20
Weyher & Son, Wagons	5	1	20	.....	20	.....	1	120
Whitewater Electric Light Plant	2	.....	6	.....	6	.....	2	225
Whitewater Gazette, Publishing	1	.....	2	2	4	.....	.....	.....
Whitewater Register, Publishing	1	.....	5	4	9	.....	1	5
Whitewater Robt Tannery	1	.....	4	.....	4	.....	1	15
Wisconsin Dairyman Supply Co.	2	.....	6	1	6	.....	.....	.....
Total	22	6	95	55	150	9	.....	454
WILDROSE, WAUSHARA CO.								
Jenks, O. J., & Son, Saw mill	1	.....	2	.....	2	.....	1	30
Northern Grain Co., Elevator	1	.....	5	.....	5	.....	.....	.....
Rose Milling Co., Flour	1	.....	2	.....	2	.....	.....	.....
Starks & Skel, Feed mill	1	.....	1	.....	1	.....	.....	.....
Wild Rose Creamery Co.	1	.....	1	.....	1	.....	1	10
Wild Rose Times, Publishing	1	.....	1	.....	1	.....	.....	.....
Total	6	.....	13	.....	13	.....	2	40
WILSON, ST. CROIX CO.								
Keelyne Feed mill	1	.....	2	.....	2	.....	1	30
Wilson Creamery Co.	2	.....	2	.....	2	.....	1	13
Total	4	.....	4	.....	4	.....	2	43

TABLE I—ESTABLISHMENTS INSPECTED—Continued.

Location, name and business.	Buildings.		Employees.				Boilers.	
	Under 3 stories.	3 or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total h. p.
WILTON, MONROE CO.								
Central Wis. Creamery	3	.....	3	.....	3	.....	1	2
Hett, Christ, Mfg. Wagons, carriages .....	.....	1	6	.....	6	.....	.....	.....
Schell, Henry, Elevator .....	.....	1	1	.....	1	.....	.....	.....
Wilton Co-op. Creamery	3	.....	2	.....	2	.....	1	15
Wilton Herald, Publishing	1	.....	2	.....	2	.....	.....	.....
Wilton Roller Mills, Flour	1	.....	2	.....	2	.....	.....	.....
Total	8	2	16	.....	16	.....	2	35
WINNECONNE, WINNEBAGO CO.								
Local, The, Publishing	1	.....	1	2	3	.....	.....	.....
Masterson, Martin, Machine shop ..	1	.....	1	.....	1	.....	.....	.....
Milwaukee Elevator Co.	1	.....	1	.....	1	.....	.....	.....
Schneider Bros. & Maeder, Flour..	1	1	5	.....	5	.....	1	110
Westfield Creamery Co.	1	.....	1	.....	1	.....	1	12
Wis. Canning Co.	2	.....	13	200	213	.....	1	70
Total	7	1	22	202	224	.....	3	132
WITHEE, CLARK CO.								
Paulson, P. A., Saw mill	2	.....	12	.....	12	.....	2	70
Total	2	.....	12	.....	12	.....	2	70
WITTENBERG, SHAWANO CO.								
Enterprise, The, Publishing	1	.....	2	.....	2	.....	.....	.....
For Gammel Og Ung, Publishing...	1	.....	5	.....	5	.....	.....	.....
Viking Lumber Co., Electric light..	1	.....	1	.....	1	.....	.....	.....
Viking Lumber Co., Planing mill..	3	.....	15	.....	15	.....	2	150
Wittenberg Bottling Works	1	.....	2	.....	2	.....	.....	.....
Total	7	.....	25	.....	25	.....	2	150
WONEWOC, JUNEAU CO.								
Wonewoc Creamery	1	.....	1	.....	1	.....	1	20
Wonewoc Milling Co., Flour	1	1	4	.....	4	.....	.....	.....
Wonewoc Reporter, The, Publishing	1	.....	1	.....	1	.....	.....	.....
Total	3	1	6	.....	6	.....	1	20
WOODVILLE, ST. CROIX CO.								
Everson, Olaf, Elevator and feed mill	2	.....	3	.....	3	.....	.....	.....
Total	2	.....	3	.....	3	.....	.....	.....

TABLE II—ESTABLISHMENTS INSPECTED—SUMMARY BY CITIES.

Number.	City and county.	Number of establishments.	Buildings.		Employees.				Boilers.		No. establishments having other power.
			Under three stories.	Three or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total horse power.	
1	Abbotsford, Clark Co.	3	9	...	60	3	63	...	6	270	...
2	Albany, Green Co.	6	6	1	39	30	69	3	1	80	5
3	Algoma, Kewaunee Co.	10	33	2	382	56	438	27	9	740	9
4	Alma, Buffalo Co.	3	9	...	7	...	7	...	1	25	9
5	Amery, Polk Co.	8	7	2	55	...	55	...	5	205	4
6	Amherst, Portage Co.	5	5	...	10	1	11	1	2	32	3
7	Annita, Bayfield Co.	2	9	...	80	...	80	...	3	145	...
8	Antigo, Langlade Co.	20	46	7	380	12	392	12	26	1,870	9
9	Applesiver, Polk Co.	1	1	...	1	...	1	...	...	...	1
10	Appleton, Outagamie Co.	60	89	18	1,562	471	2,023	5	69	8,504	30
11	Arbor Vitae, Vilas Co.	2	25	...	719	1	720	...	14	1,000	...
12	Arcadia, Trempealeau Co.	9	10	3	18	2	20	...	6	870	5
13	Ashland, Ashland Co.	28	91	2	1,591	22	1,613	...	56	5,045	7
14	Athens, Marathon Co.	7	27	2	165	...	165	3	14	973	1
15	Atlanta, Rusk Co.	1	6	...	83	...	83	...	3	450	...
16	Baldwin, St. Croix Co.	1	1	...	3	...	3	...	1	25	...
17	Bangor, La Crosse Co.	5	12	2	23	1	24	...	4	255	2
18	Baraboo, Sauk Co.	22	51	2	290	84	344	4	11	691	15
19	Barksdale, Bayfield Co.	1	51	...	200	...	200	...	3	890	...
20	Barron, Barron Co.	7	9	1	105	...	105	2	5	290	2
21	Barronett, Barron Co.	3	8	...	16	...	16	...	3	75	...
22	Bayfield, Bayfield Co.	7	22	...	335	1	336	...	11	1,100	2
23	Beaver Dam, Dodge Co.	21	42	11	903	265	1,168	15	21	1,612	8
24	Beldenville, Pierce Co.	3	3	1	14	...	14	...	2	97	...
25	Bellwood, Douglas Co.	1	1	...	40	...	40	...	2	80	...
26	Beloit, Rock Co.	40	117	6	3,777	216	3,593	5	39	4,130	26
27	Benton, Lafayette Co.	12	14	...	159	...	159	...	15	1,245	...
28	Berlin, Green Lake Co.	27	41	5	397	280	677	3	14	998	19
29	Bibon, Bayfield Co.	1	4	...	120	...	120	...	2	250	...
30	Birchwood, Washburn Co.	2	8	...	70	...	70	4	3	265	...
31	Birnamwood, Shawano Co.	4	9	...	43	...	43	...	2	140	1
32	Black River Falls, Jackson Co.	6	6	...	34	1	35	...	...	...	6
33	Blair, Trempealeau Co.	6	5	2	13	...	13	...	3	64	3
34	Bloomer, Chippewa Co.	9	14	2	32	2	34	...	4	129	6
35	Boscobel, Grant Co.	12	23	3	80	8	88	...	7	334	6
36	Brandon, Fond du Lac Co.	6	6	...	7	2	9	...	1	15	5
37	Brill, Barron Co.	1	1	...	1	...	1	...	1	20	...
38	Brillion, Calumet Co.	3	12	4	143	1	144	...	6	357	9
39	Bristol, Kenosha Co.	2	1	1	8	...	8	...	2	60	...
40	Brodhead, Green Co.	9	9	2	37	44	81	...	2	70	7
41	Brokaw, Marathon Co.	1	19	...	265	10	275	...	5	1,200	...
42	Brooklyn, Green Co.	2	7	...	12	...	12	...	2	100	...
43	Brown's Spur, Marinette Co.	1	1	...	25	...	25	...	1	100	...
44	Bruce, Rusk Co.	1	8	...	75	...	75	4	8	140	...
45	Buncombe, Lafayette Co.	1	2	...	60	...	60	...	8	400	...
46	Bundy, Lincoln Co.	1	6	...	125	...	125	...	4	600	...
47	Burkhardt, St. Croix Co.	1	2	2	10	...	10	...	...	...	1
48	Burlington, Racine Co.	13	37	4	270	96	366	...	19	1,430	6
49	Butternut, Ashland Co.	3	14	...	136	...	136	3	5	406	1
50	Cambria, Columbia Co. ....	...	5	...	7	2	9	...	2	100	3

TABLE II—ESTABLISHMENTS INSPECTED—SUMMARY BY CITIES.
(Continued).

Number.	City and county.	Number of establishments.	Buildings.		Employees.				Boilers.		
			Under three stories.	Three or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total horse power.	No. establishments having other power.
51	Cambridge, Dane Co.	4	7	...	63	20	83	1	4	135	1
52	Cameron, Barron Co.	4	4	...	13	2	15	1	3	75	1
53	Campbellsport, Fond du Lac Co.	3	3	...	5	3	8	...	1	50	3
54	Caroline, Shawano Co.	2	2	...	13	...	13	...	1	50	1
55	Carrollville, Milwaukee Co.	2	17	2	180	51	231	11	13	8,560	...
56	Cashton, Monroe Co.	9	13	1	74	26	100	...	5	157	4
57	Cassville, Grant Co.	5	13	1	72	1	73	...	6	335	1
58	Cavour, Forest Co.	1	1	...	16	...	16	...	1	65	...
59	Cedarburg, Ozaukee Co.	13	38	10	245	47	292	...	12	1,080	6
60	Cedargrove, Sheboygan Co.	2	4	1	43	...	23	...	2	90	1
61	Centuria, Polk Co.	1	1	...	10	...	10	...	1	50	...
62	Chaseburg, Vernon Co.	4	3	1	9	...	9	...	1	12	3
63	Chilton, Calumet Co.	17	47	7	76	3	79	...	13	831	9
64	Chippewa Falls, Chippewa Co. ..	26	72	9	182	78	1,360	5	32	3,540	18
65	Clearlake, Polk Co.	2	1	1	4	...	4	...	1	18	1
66	Cleveland, Manitowoc Co.	4	4	...	16	4	20	1	1	85	...
67	Clintonville, Waupaca Co.	7	11	1	30	7	37	...	8	403	3
68	Colfax, Dunn Co.	4	5	1	12	...	12	...	1	60	3
69	Collins, Manitowoc Co.	3	8	...	56	...	56	...	3	95	...
70	Columbus, Columbia Co.	3	16	7	88	17	105	14	8	655	3
71	Combined Locks, Outagamie Co.	1	4	1	240	5	245	...	8	1,500	...
72	Conover, Vilas Co.	1	1	...	12	...	12	...	1	60	...
73	Coon Valley, Vernon Co.	5	3	2	11	...	11	...	1	12	4
74	Corliss, Racine Co.	1	6	...	250	...	250	...	2	150	...
75	Couderay, Sawyer Co.	1	7	...	75	...	75	...	1	100	...
76	Crandon, Forest Co.	7	19	...	213	14	227	4	8	675	2
77	Cuba, Grant Co.	15	16	1	231	1	232	...	19	1,450	4
78	Cudahy, Milwaukee Co.	4	31	17	1564	37	1,601	44	26	4,380	...
79	Cumberland, Barron Co.	5	16	...	124	1	125	9	7	555	3
80	Darlington, Lafayette Co.	5	9	...	11	1	12	...	2	162	4
81	Dartford, Green Lake Co.	4	4	...	8	1	9	...	1	20	3
82	Deerbrook, Langlade Co.	2	2	1	8	...	8	...	2	120	...
83	Deerfield, Dane Co.	8	8	...	60	78	138	2	2	43	6
84	Deerpark, St. Croix Co.	3	2	1	6	...	6	...	1	20	2
85	Delavan, Walworth Co.	10	13	1	51	46	97	1	7	410	5
86	De Pere, Brown Co.	18	61	13	525	356	881	28	24	4,125	10
87	Deronda, Polk Co.	1	1	...	2	...	2	...	1	40	...
88	Dodgeville, Iowa Co.	8	13	1	42	5	47	...	6	245	3
89	Dorchester, Clark Co.	3	3	1	59	...	59	...	4	245	...
90	Drummond, Bayfield Co.	1	12	...	150	...	150	2	2	200	...
91	Dunbar, Marinette Co.	1	6	...	136	6	142	1	6	600	...
92	Eaglepoint, Chippewa Co.	1	1	...	1	...	1	...	...	...	1
93	Eagle River, Vilas Co.	1	1	...	2	...	2	...	2	150	...
94	Eau Claire, Eau Claire Co.	51	181	13	2320	270	2,590	75	67	6,955	28
95	Edgar, Marathon Co.	4	9	...	81	...	81	...	6	175	1
96	Edgerton, Rock Co.	32	34	2	1003	633	1,636	17	1	10	31
97	Elkhart, Sheboygan Co.	2	2	...	3	...	3	...	...	...	3
98	Elkhorn, Walworth Co.	10	15	2	46	8	54	...	9	410	2
99	Elk mound, Dunn Co.	3	3	1	5	...	5	...	1	12	2
100	Ellsworth, Pierce Co.	8	7	2	33	...	33	...	5	275	4

TABLE II—ESTABLISHMENTS INSPECTED—SUMMARY BY CITIES.
(Continued).

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			Under three stories.	Three or more stories.	Male.	Female.	Total.	Under 16 yrs of age.	No.	Total horse power.	
101	Elmgrove, Waukesha Co.	1	1	....	1	....	1	....	....	....	1
102	Elmwood, Pierce Co.	1	1	....	2	....	....	....	1	16	....
103	Elroy, Juneau Co.	9	11	1	57	4	61	....	7	470	4
104	Evansville, Rock Co.	13	33	1	214	123	337	1	3	600	9
105	Fairchild, Eau Claire Co.	4	5	....	5	3	8	....	4	270	1
106	Fennimore, Grant Co.	6	8	....	15	1	16	....	3	180	4
107	Florence, Florence Co.	5	19	....	245	....	245	....	12	1,210	2
108	Fond du Lac, Fond du Lac Co.	50	125	29	2694	486	3,380	87	52	6,335	22
109	Forest Jc., Calumet Co.	1	....	1	4	....	4	....	....	....	1
110	Fort Atkinson, Jefferson Co.	13	44	7	550	47	597	3	17	960	1
111	Fountain City, Buffalo Co.	8	7	3	34	....	34	....	5	232	3
112	Foxlake, Dodge Co.	6	4	2	15	....	15	....	2	40	3
113	Frederic, Polk Co.	4	3	1	89	....	89	....	....	280	....
114	Fremont, Waupaca Co.	2	2	....	4	....	4	....	2	37	....
115	Gagen, Oneida Co.	1	4	....	65	....	65	....	3	250	....
116	Galesville, Trempealeau Co.	7	8	2	21	2	23	....	2	65	5
117	Gays Mills, Crawford Co.	1	1	....	25	29	54	....	....	....	1
118	Genoa Jc., Walworth Co.	4	7	....	51	....	51	....	5	286	3
119	Glendale, Monroe Co.	3	5	....	4	....	4	....	2	70	1
120	Glenwood, St. Croix Co.	1	2	....	2	....	2	....	1	20	....
121	Glidden, Ashland Co.	5	13	....	167	....	167	7	10	800	....
122	Grafton, Ozaukee Co.	3	9	2	22	28	50	4	2	15	3
123	Grand Rapids, Wood Co.	22	78	9	779	43	822	14	28	3,105	3
124	Grantsburg, Burnett Co.	3	2	1	36	....	36	....	2	80	1
125	Greenbay, Brown Co.	74	344	25	2791	378	3,169	13	105	12,960	20
126	Greenwood, Clark Co.	4	5	1	19	1	20	1	4	136	1
127	Hackley, Vilas Co.	3	8	....	190	....	190	1	4	600	....
128	Hammond, St. Croix Co.	1	1	....	2	....	2	....	1	20	....
129	Hancock, Waushara Co.	5	5	....	9	1	10	....	1	14	3
130	Hartford, Washington Co.	13	20	5	197	48	245	....	15	723	6
131	Haugen, Barron Co.	2	3	....	21	....	21	....	3	102	....
132	Hawthorne, Douglas Co.	2	3	....	52	....	52	....	4	230	....
133	Hayward, Sawyer Co.	6	10	....	426	....	426	27	8	750	3
134	Hazelgreen, Grant Co.	7	7	....	256	....	256	....	18	1,556	....
135	Hazelhurst, Oneida Co.	1	15	....	193	....	193	2	5	650	....
136	Heineman, Lincoln Co.	1	7	....	125	....	125	....	5	425	....
137	Highland, Iowa Co.	3	9	1	56	2	58	....	4	360	1
138	Hilbert, Calumet Co.	5	9	....	22	....	22	....	2	175	3
139	Hiles, Forest Co.	1	3	....	90	....	90	....	5	450	....
140	Hillsboro, Vernon Co.	6	9	1	23	1	24	....	5	260	1
141	Horicon, Dodge Co.	7	12	....	254	1	255	....	4	128	4
142	Horticksville, Racine Co.	3	3	....	102	....	102	....	3	120	....
143	Hortonville, Outagamie Co.	8	20	3	28	....	28	....	7	315	....
144	Houlton, St. Croix Co.	1	7	....	250	....	250	....	4	500	....
145	Howards Grove, Sheboygan Co.	1	4	....	18	....	18	....	1	60	....
146	Hudson, St. Croix Co.	7	15	1	482	4	486	....	10	670	3
147	Hurley, Iron Co.	3	4	....	62	....	62	....	1	5	2
148	Independence, Trempealeau Co.	6	6	2	10	....	10	....	2	18	4
149	Iola, Waupaca Co.	4	3	1	12	2	14	....	3	145	1
150	Iron River, Bayfield Co.	6	8	281	281	4	10	655	1

TABLE II—ESTABLISHMENTS INSPECTED—SUMMARY BY CITIES.
(Continued).

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			Under three stories.	Three or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total horse power.	
151	Irvington, Dunn Co.	1	6	100			100	4	3	140	
152	Itaska, Douglas Co.	2	10	1	180		180		7	1,425	1
153	Janesville, Rock Co.	81	156	29	1734	927	2,661	39	48	4,638	33
154	Jefferson, Jefferson Co.	19	48	10	335	47	382	2	16	1,036	5
155	Jefferson Jr., Jefferson Co.	1	2	4	12		12		2	250	
156	Johnson Creek, Jefferson Co.	4	6	1	14	1	15		4	165	1
157	Juneau, Dodge Co.	9	13		44	4	48	1	5	224	1
158	Kaukauna, Outagamie Co.	16	28	2	770	177	947		20	2,167	12
159	Kempster, Langlade Co.	2	6		89		89		5	295	
160	Kendall, Monroe Co.	4	5		7		7		2	100	1
161	Kenosha, Kenosha Co.	54	200	18	4893	1148	6,011	495	88	10,270	2
162	Kewaskum, Washington Co.	3	5	3	17		17		2	200	15
163	Kewaunee, Kewaunee Co.	14	42	4	265	72	337	18	11	615	4
164	Kiel, Manitowoc Co.	9	24	4	178	1	179	6	3	475	6
165	Kilbourn, Columbia Co.	6	9	1	13	2	15		2	160	5
166	Kimberly, Outagamie Co.	1	4	1	235		235		3	300	1
167	Lac du Flambeau, Vilas Co.	1	9		256		256		7	700	
168	La Crosse, La Crosse Co.	132	225	59	3104	1131	4,295	168	88	8,307	74
169	Ladysmith, Rusk Co.	12	23		240	3	253	2	11	1,256	4
170	Lake Geneva, Walworth Co.	14	16	1	121	7	128		11	653	6
171	Lake Mills, Jefferson Co.	6	8	1	105	2	107		1	8	3
172	Lake Nebagamun, Douglas Co.	2	8		370		370	14	5	750	
173	Lancaster, Grant Co.	8	12	1	25	24	49		4	294	3
174	Laona, Forest Co.	1	10		300		300	2	4	600	
175	Littlechute, Outagamie Co.	2	3		79		73				2
176	Little Falls, Polk Co.	3	4	1	17	4	21		1	16	2
177	Lodi, Columbia Co.	4	4	1	7	3	10		3	60	2
178	Lomira, Dodge Co.	5	5		10		10		2	75	2
179	Loyal, Clark Co.	6	17		58		58	2	7	400	1
180	Luck, Polk Co.	1	3		30		30		2	95	
181	MacFarland, Dane Co.	2	2		72	15	27				1
182	Madison, Dane Co.	71	201	21	2009	705	3,314	6	46	4,443	40
183	Malden Rock, Pierce Co.	1	1		2	1	3				1
184	Manawa, Waupaca Co.	6	9	2	54	1	55		3	160	3
185	Manitowoc, Manitowoc Co.	50	237	27	1792	506	2,298	95	58	5,750	19
186	Marathon, Marathon Co.	3	4		23		22		4	315	
187	Marinette, Marinette Co.	30	75	2	1147	79	1,526	24	63	4,875	7
188	Marion, Waupaca Co.	8	6	2	40	2	42		4	180	4
189	Markesan, Green Lake Co.	7	9		15		18		3	120	4
190	Marshfield, Wood Co.	19	73	3	619	60	679	46	25	1,945	5
191	Mason, Bayfield Co.	1	3		235		225		9	1,800	
192	Mauston, Juneau Co.	11	14	1	28	2	30		6	213	4
193	Mayville, Dodge Co.	17	36	5	286	2	288		18	1,580	6
194	Mazomanie, Dane Co.	4	4		15		15		3	104	1
195	Medford, Taylor Co.	13	34	3	245	10	255	15	15	1,190	5
196	Mellen, Ashland Co.	3	16	1	273		273		10	1,800	1
197	Menasha, Winnebago Co.	24	174	21	1511	434	1,745	80	33	5,630	12
198	Menomonee Falls, Waukesha Co.	7	18	6	197		197		15	1,620	1
199	Menomonie, Dunn Co.	21	43	5	508	7	515	5	19	1,015	12
200	Meridian, Dunn Co.	2	3		4		4		2	28	2
201	Merrill, Lincoln Co.	24	142	5	1733	19	1,751	72	58	5,220	9
202	Milton, Rock Co.	4	5		18	43	66		1	20	2
203	Milton Junction, Rock Co.	5	5		25	29	54		1	15	2
204	Milwaukee, Milwaukee Co.	840	1908	665	1		60,402	3327	834	90,970	403
205	Mineral Point, Iowa Co.	11	62	5	311	2	313		12	1,177	4

1 55,737

2 10,605

TABLE II—ESTABLISHMENTS INSPECTED—SUMMARY BY CITIES.
(Continued).

Number.	City and county.	Number of establishments.	Buildings.		Employees.				Boilers.		No. establishments having other power.
			Under three stories.	Three or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total horse power.	
206	Mondovi, Buffalo Co.	10	9	3	21	2	23	...	3	65	7
207	Monico, Oneida Co.	1	1	...	20	...	20	...	2	700	...
208	Monroe, Green Co.	15	39	4	130	22	152	...	13	1,008	6
209	Montello, Marquette Co.	6	10	...	158	1	159	...	11	467	2
210	Montfort, Grant Co.	2	2	...	4	...	4	...	...	...	2
211	Mosinee, Marathon Co.	1	2	...	40	...	40	...	4	220	...
212	Muscoda, Grant Co.	8	5	...	30	1	31	...	1	50	2
213	Nashville, Forest Co.	1	5	...	40	...	40	...	2	150	...
214	Necedah, Juneau Co.	2	3	1	7	...	7	...	1	60	1
215	Neenah, Winnebago Co.	21	57	11	415	168	583	8	20	2,466	13
216	Neillsville, Clark Co.	15	24	4	132	11	143	5	9	491	4
217	Nekoosa, Wood Co.	2	19	2	342	11	353	...	7	1,350	2
219	Neshkoro, Marquette Co.	1	1	...	8	...	8	...	...	...	1
219	New Holstein, Calumet Co.	6	9	...	41	...	41	...	2	85	4
220	New Lisbon, Juneau Co.	1	7	...	3	...	3	...	1	20	...
221	New London, Waupaca Co.	17	33	6	414	34	448	18	19	1,225	4
222	New Richmond, St. Croix Co.	12	18	5	207	8	215	...	6	280	0
223	Niagara, Marinette Co.	1	15	...	414	11	425	...	6	1,200	1
224	North Milwaukee, Milwaukee Co.	7	29	2	551	5	556	12	11	1,080	2
225	Norwalk, Monroe Co.	3	4	1	5	...	5	...	2	93	1
226	Oconomowoc, Waukesha Co.	11	20	2	49	14	63	...	10	695	6
227	Oconto, Oconto Co.	15	74	2	1019	10	1,029	15	45	3,815	6
228	Oconto Falls, Oconto Co.	8	33	1	227	7	234	4	17	1,180	6
229	Odanah, Ashland Co.	2	12	...	483	11	494	2	11	1,125	3
230	Ogema, Price Co.	2	3	...	27	...	27	...	3	262	...
231	Omro, Winnebago, Co.	9	9	...	19	4	23	...	1	75	8
232	Onalaska, La Crosse Co.	3	9	2	73	7	80	5	3	150	1
233	Oostburg, Sheboygan Co.	2	12	1	80	24	104	10	2	145	...
234	Oregon, Dane Co.	7	7	...	9	2	11	...	1	25	2
235	Osceola, Polk Co.	1	...	1	10	...	10	...	...	...	2
236	Oshkosh, Winnebago Co.	118	370	46	5475	1048	6,523	438	104	12,352	56
237	Owen, Clark Co.	1	10	...	252	8	255	...	5	395	...
238	Padus, Forest Co.	2	2	...	27	...	27	...	2	130	...
239	Palmyra, Jefferson Co.	1	1	...	2	...	2	...	...	...	2
240	Pardeeville, Columbia Co.	6	6	...	6	1	7	...	...	...	6
241	Parkfalls, Price Co.	12	46	...	408	15	423	...	27	2,365	2
242	Pembine, Marinette Co.	2	2	...	2	...	2	...	...	...	2
243	Pepin, Pepin Co.	3	4	...	11	...	11	...	2	83	1
244	Peshigo, Marinette Co.	7	29	1	322	3	325	...	9	990	3
245	Phillips, Price Co.	5	17	...	374	...	374	7	10	1,025	3
246	Plainfield, Waushara Co.	3	2	1	7	1	8	...	1	12	2
247	Platteville, Grant Co.	21	47	3	260	7	267	1	26	2,033	4
248	Pleasant Prairie, Kenosha Co.	1	13	...	64	...	64	...	4	600	...
249	Plymouth, Sheboygan Co.	23	57	2	247	27	274	2	17	1,067	10
250	Portage, Columbia Co.	29	53	4	278	400	678	16	19	765	11
251	Port Edwards, Wood Co.	1	8	...	130	...	130	2	6	1,000	0
252	Port Washington, Ozaukee Co.	21	86	12	979	56	1,035	27	22	2,035	9
253	Prairie du Chien, Crawford Co.	23	36	4	198	73	271	1	13	868	12
254	Prentice, Price Co.	2	13	2	163	2	165	1	9	496	2
255	Prescott, Pierce Co.	5	6	...	9	...	9	...	2	110	3

TABLE II—ESTABLISHMENTS INSPECTED—SUMMARY BY CITIES.
(Continued).

Number.	City and county.	Number of establishments.	Buildings.		Employees.				Boilers.		No. establishment having other power.
			Under three stories.	Three or more stories.	Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total horse power.	
256	Princeton, Green Lake Co.....	5	13	2	24	45	69	.....	3	140	4
257	Racine, Racine Co.....	138	256	95	8200	700	9,900	260	124	15,554	67
258	Racine Junction, Racine Co.....	1	1	.....	6	.....	6	.....	.....	.....	1
259	Radisson, Sawyer Co.....	1	5	.....	90	.....	90	.....	2	100	.....
260	Randolph, Dodge Co.....	7	14	1	97	19	116	7	6	280	3
261	Readstown, Vernon Co.....	2	2	.....	18	50	68	1	.....	.....	.....
262	Redgranite, Waushara Co.....	2	2	.....	131	2	133	.....	5	30	1
263	Reedsburg, Sauk Co.....	16	42	6	176	161	337	11	12	810	6
264	Reedsville, Manitowoc Co.....	7	1	.....	2	.....	2	.....	.....	.....	1
265	Rhineland, Oneida Co.....	23	62	7	1036	10	1,046	8	62	5,075	9
266	Riblake, Taylor Co.....	4	20	.....	247	.....	247	.....	22	1,480	.....
267	Rice Lake, Barron Co.....	21	44	2	353	6	359	1	21	1,501	7
268	Richland Center, Richland Co.....	14	19	3	82	5	87	.....	10	672	6
269	Ripon, Fond du Lac Co.....	13	22	6	131	100	231	.....	10	795	7
270	River Falls, Pierce Co.....	18	17	5	79	4	83	.....	2	70	13
271	Riverside, Sheboygan Co. ¹	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
272	Roberts, St. Croix Co.....	1	1	.....	3	.....	3	.....	1	15	.....
273	Rubicon, Dodge Co.....	2	1	2	13	.....	13	.....	3	166	1
274	Rusk, Dunn Co.....	3	5	.....	6	.....	6	.....	2	60	2
275	St. Croix Falls, Polk Co.....	3	.....	2	503	3	506	.....	5	250	1
276	St. Nazianz, Manitowoc Co.....	1	6	1	34	12	46	.....	2	150	.....
277	Sarona, Washburn Co.....	1	1	.....	12	.....	12	.....	1	60	.....
278	Sauk City, Sauk Co.....	9	19	1	76	33	109	.....	6	390	2
279	Sawyer, Door Co.....	6	29	2	187	35	222	19	6	440	2
280	Saxon, Iron Co.....	3	3	.....	54	.....	52	.....	5	343	1
281	Scandinavia, Waupaca Co.....	4	.....	4	5	2	7	.....	1	15	3
282	Schellsingerville, Washington Co.....	9	10	.....	27	1	28	9	3	130	5
283	Schofield, Marathon Co.....	1	7	.....	250	.....	250	4	5	565	.....
284	Seymour, Outagamie Co.....	7	17	1	33	2	35	.....	5	305	2
285	Shawano, Shawano Co.....	10	32	5	166	12	178	.....	14	1,635	4
286	Sheboygan, Sheboygan Co.....	73	313	66	6197	681	7,508	279	107	11,246	20
287	Sheboygan Falls, Sheboygan Co.....	10	35	6	283	8	291	1	7	600	3
288	Shell Lake, Washburn Co.....	5	14	1	85	2	86	.....	5	380	.....
289	Shiocton, Outagamie Co.....	2	1	.....	2	1	3	.....	1	50	1
290	Shullsburg, Lafayette Co.....	7	6	1	85	2	39	.....	6	243	2
291	Signor, Sawyer Co.....	1	1	.....	22	.....	22	.....	1	80	.....
292	Soldiers Grove, Crawford Co.....	6	10	.....	29	.....	29	.....	4	320	2
293	Somerset, St. Croix Co.....	1	1	.....	4	.....	4	.....	.....	.....	.....
294	South Milwaukee, Milwaukee Co.....	13	65	2	1915	8	1,923	29	18	3,102	3
295	Sparta, Monroe Co.....	15	34	.....	142	307	449	.....	8	120	7
296	Spilltrock, Shawano Co.....	1	2	.....	12	.....	12	.....	1	50	.....
297	Spooner, Washburn Co.....	6	7	2	29	1	29	.....	2	90	3
298	Springvalley, Pierce Co.....	11	55	.....	246	2	248	2	17	1,905	3
299	Stanley, Chippewa Co.....	5	37	.....	779	2	781	22	15	575	2
300	Stetsonville, Taylor Co.....	3	2	.....	32	.....	32	.....	4	245	.....
301	Stevens Point, Portage Co.....	28	122	9	943	249	1,192	51	35	2,396	13
302	Stoddard, Vernon Co.....	4	4	.....	5	.....	5	.....	2	57	2
303	Stoughton, Dane Co.....	28	71	10	1024	397	1,421	18	14	1,122	15
304	Sturgeon Bay, Door Co.....	14	51	1	540	50	590	30	15	1,080	5
305	Sun Prairie, Dane Co.....	2	2	.....	40	115	155	.....	.....	.....	.....

¹ See under Sheboygan.

TABLE II—ESTABLISHMENTS INSPECTED—SUMMARY BY CITIES.
(Continued).

Number.	City and county.	Number of establishments.	Buildings.			Employees.				Boilers.		
			Under three stories.	Three or more stories.		Male.	Female.	Total.	Under 16 yrs. of age.	No.	Total horse power.	No. establishments having other power.
306	Superior, Douglas Co.	87	273	18	3692	75	3,737	8	156	16,941	33	
307	Suring, Oconto Co.	1	1	1	8		2					1
308	Theresa, Dodge Co.	4	3	1	10		10			4	108	
309	Thorp, Clark Co.	9	12		35		85			16	890	4
310	Tigerton, Shawano Co.	3	3		64		64	1	2	100		2
311	Tomah, Monroe Co.	12	48	1	284	3	287	1	15	1,033	2	
312	Tomahawk, Lincoln Co.	9	65		494	4	498	15	21	2,690	2	
313	Turtle Lake, Barron Co.	2	2		6		6		1	20	1	
314	Two Rivers, Manitowoc Co.	17	94	11	1270	214	1,484	141	28	2,610	5	
315	Uniongrove, Racine Co.	3	3		13		13		2	110	1	
316	Unity, Marathon Co.	1	5		42		42	2	3	135		
317	Viola, Richland Co.	5	8		50	39	89	1	1	70	4	
318	Viroqua, Vernon Co.	9	8	1	51	121	172		2	160	5	
319	Wabeno, Forest Co.	3	14	1	260		260		10	1,050		
320	Walworth, Walworth Co.	6	9		49	1	50		6	970	4	
321	Washburn, Bayfield Co.	11	35	1	418	5	423	7	27	2,295	2	
322	Waterloo, Jefferson Co.	10	16	2	43	12	55		6	440	7	
323	Watertown, Jefferson Co.	34	81	14	742	317	1,059	58	29	2,370	17	
324	Waukesha, Waukesha Co.	45	67	9	1024	156	1,180	71	44	2,715	12	
325	Waukegan, Dane Co.	2	2		5		5				3	
326	Waupaca, Waupaca Co.	17	42	3	116	14	130		7	410	11	
327	Waupun, Fond du Lac Co.	15	35	7	195	96	291	15	9	220	8	
328	Wausau, Marathon Co.	49	221	14	2161	95	2,256	129	79	7,044	13	
329	Wautoma, Wausara Co.	6	6		15	1	16		1	12	5	
330	Wauwatosa, Milwaukee Co.	19	70	11	599	44	643	46	42	4,600	4	
331	West Allis, Milwaukee Co.	9	40	4	4744	2	4,746	26	16	2,625	2	
332	West Bend, Washington Co.	7	21	6	165	93	258	10	6	490	3	
333	Westboro, Taylor Co.	2	7		153		153	5	6	405	2	
334	Westby, Vernon Co.	8	13	1	67	66	123		4	190	4	
335	Westfield, Marquette Co.	4	4		7		7		1	12	3	
336	Weston, Dunn Co.	1	1		65		65		3	150		
337	West Salem, La Crosse Co.	3	5		7	2	9		1	20	3	
338	Weyauwega, Waupaca Co.	8	6	4	26	3	29		2	32	6	
339	Weyerhaeuser, Rusk Co.	2	4		35		35		2	70	1	
340	Whitcomb, Shawano Co.	1	1		35		35		4	160		
341	Whitehall, Trempealeau Co.	8	6	2	12		12		1	20	4	
342	Whitewater, Walworth Co.	14	22	6	95	55	150		9	454	5	
343	Wildrose, Wausara Co.	5	6		13		15		2	40	4	
344	Wilson, St. Croix Co.	2	4		4		4		2	48		
345	Wilton, Monroe Co.	6	8	2	16		16		2	35	4	
346	Winneconne, Winnebago Co.	6	7	1	22	202	224		3	122	3	
347	Winchee, Clark Co.	1	2		12		12		2	70		
348	Wittenberg, Shawano Co.	5	7		25		25		2	150	4	
349	Wonewoc, Juneau Co.	3	3	1	6		6		1	20	2	
350	Woodville, St. Croix Co.	1	2		3		3				1	

Total number of establishments	4,237
Total number of buildings under three stories	10,839
Total number of buildings three or more stories	1,664
Number of male employees	171,306
Number of female employees	28,616
Total number of employees	199,924
Total number of employees under 16 years of age	7,313
Total number of boilers	4,467
Total horse power	445,265
Total number of establishments having other power	1,434

The totals obtained in the foregoing tables are analyzed in Tables III-VII, following. It should be noted at this point, however, that the number of children under sixteen years of age, 7,313, is not in addition to the total number of male and female employees just preceding, 199,924, but is included in the latter number.

Tables III, IV and V present facts relating to the 12,531 buildings used by the various establishments.

TABLE III—NUMBER OF BUILDINGS INSPECTED AND AVERAGE TO EACH ESTABLISHMENT.

Classification.	Number of establishments inspected.	Buildings.		
		Number.	Per cent.	Average No. per establishment.
In Milwaukee	840	2,631	21.0	3.1
Outside Milwaukee	3,397	9,900	79.0	2.9
Total	4,237	12,531	100.0	3.0

TABLE IV—NUMBER AND KIND OF BUILDINGS.

Classification.	In Milwaukee.		Outside Milwaukee.		In state.	
	Number	Per cent.	Number.	Per cent.	Number.	Per cent.
Wooden buildings:						
One story	651	65.1	3,036	67.0	4,287	68.7
Two stories	206	29.6	1,400	25.8	1,696	26.4
Three stories	42	4.2	204	5.5	336	5.2
Four stories	6	0.6	62	1.1	68	1.1
Five stories	5	0.5	17	0.3	22	.3
Six stories			17	0.3	17	.3
Seven stories			1	0.0	1	0.0
Eight stories			1	0.0	1	0.0
Total	1,000	100.0	5,428	100.0	6,428	100.0
Brick buildings:						
One story	540	37.0	2,131	58.5	2,671	52.3
Two stories	357	25.2	987	27.1	1,354	26.5
Three stories	214	14.7	362	9.9	676	11.3
Four stories	162	11.1	125	3.3	287	5.6
Five stories	100	6.9	26	.8	126	2.6
Six stories	47	3.2	18	.4	60	1.2
Seven stories	24	1.6	1	0.0	25	0.5
Eight stories	3	.3			3	0.1
Nine stories	2	.1			2	0.0
Total	1,459	100.0	3,645	100.0	5,104	100.0

TABLE IV—NUMBER AND KIND OF BUILDINGS—Continued.

Classification.	In Milwaukee.		Outside Milwaukee.		In state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Iron and steel buildings:						
One story	79	54.5	383	68.5	411	60.8
Two stories	18	12.4	136	25.6	154	22.7
Three stories	11	7.6	37	7.0	48	7.1
Four stories	5	3.4	15	2.8	20	3.0
Five stories	2	1.4	4	.8	6	.9
Six stories	3	6.5	4	.8	13	1.8
Seven stories	10	6.9	.....	.....	10	1.5
Eight stories	6	4.1	.....	.....	6	.9
Nine stories	6	4.2	3	.5	9	1.3
Total	145	100.0	531	100.0	676	100.0
Stone buildings:						
One story	14	51.9	173	58.1	187	57.5
Two stories	1	3.7	73	26.3	79	24.3
Three stories	3	7.4	83	12.7	40	12.4
Four stories	7	25.9	6	2.0	13	4.0
Five stories	1	3.7	.....	.....	1	.3
Six stories	2	7.4	3	1.0	5	1.5
Total	27	100.0	298	100.0	325	100.0
All buildings:						
One story	1,294	48.8	6,273	63.3	7,556	60.3
Two stories	663	25.9	2,601	26.3	3,263	26.3
Three stories	269	10.2	731	7.4	1,000	8.0
Four stories	190	6.8	208	2.1	388	3.1
Five stories	108	4.1	47	.5	155	1.2
Six stories	57	2.2	37	.4	94	.7
Seven stories	34	1.3	2	.0	36	.3
Eight stories	9	.4	1	.0	10	.1
Nine stories	8	.3	3	.0	11	.1
Total	2,631	100.0	9,902	100.0	12,533	100.0
Total number and percent- age of each kind:						
Wooden buildings	1,000	38.0	5,486	54.8	6,486	51.2
Brick buildings	1,459	55.5	3,645	36.8	5,104	40.9
Iron and steel buildings..	145	5.5	531	5.4	676	5.4
Stone buildings	27	1.0	298	3.0	325	2.6
Total	2,631	100.0	9,902	100.0	12,533	100.0

TABLE V—RESPECTIVE PROPORTION OF BUILDINGS IN MILWAUKEE AND OUTSIDE THAT CITY, WHEN CLASSIFIED AS TO KIND AND HEIGHT.

Classification.	Number of buildings			Per cent		
	In Mil. waukee.	Outside Mil- waukee.	In the state.	In Mil- waukee.	Outside Mil- waukee.	In the state.
Kind:						
Wooden	1,000	5,428	6,428	15.6	94.4	100.0
Brick	1,459	3,645	5,104	28.6	71.4	100.0
Iron and steel	145	531	676	21.4	78.6	100.0
Stone	27	238	325	8.3	91.7	100.0
Total	2,631	9,902	12,533	21.0	79.0	100.0
Height:						
One story	1,284	6,273	7,556	17.0	93.0	100.0
Two stories	682	2,601	3,283	20.8	79.2	100.0
Three stories	269	731	1,000	26.9	73.1	100.0
Four stories	180	208	388	46.4	53.6	100.0
Five stories	108	47	155	69.7	30.3	100.0
Six stories	57	37	94	60.6	39.4	100.0
Seven stories	34	2	36	94.4	5.6	100.0
Eight stories	9	1	10	90.0	10.0	100.0
Nine stories	8	3	11	72.7	27.3	100.0
Total	2,631	9,902	12,533	21.0	79.0	100.0

From Tables III-V it is seen that about one-fourth of the establishments inspected are in Milwaukee. There is an average of three buildings to each establishment, both in Milwaukee and outside that city. About two-thirds of all wooden buildings, and from one-half to three-fifths of all others, are but one story in height. Over half of all buildings are of wood, about two-fifths of brick, and the others of iron, steel, or stone. Milwaukee has nearly 29 per cent of all the brick buildings inspected, but a considerably smaller percentage of each of the other kinds. It has a majority of all the buildings five or more stories in height, but less than half of all buildings of four stories or less.

CLASSIFICATION OF EMPLOYEES ACCORDING TO SEX AND AGE.

Classification.	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Male persons employed	55,737	83.9	115,571	86.6	171,308	85.7
Female persons employed ..	10,665	16.1	17,951	13.4	28,616	14.3
All persons employed.	66,402	100.0	133,522	100.0	199,924	100.0
Children of 14 or 15 years ..	3,327	5.8	3,330	2.5	7,157	3.6
Children under 14 years	6	0.0	150	0.1	156	0.1
All children under 16 years	3,333	5.3	3,480	2.6	7,313	3.7
All persons over 16 years ..	62,569	94.2	130,042	97.4	192,611	96.3
All employees (as above)	66,402	100.0	133,522	100.0	199,924	100.0

TABLE VII.—RESPECTIVE PROPORTION OF EMPLOYEES IN MILWAUKEE AND OUTSIDE THAT CITY, WHEN CLASSIFIED AS TO SEX AND AGE.

Classification.	Number.			Per cent.		
	In Milwaukee.	Outside Milwaukee.	In state.	In Milwaukee.	Outside Milwaukee.	In state.
Male persons employed	55,737	115,571	171,308	32.5	67.5	100.0
Female persons employed ..	10,665	17,951	28,616	37.3	62.7	100.0
All persons employed.	66,402	133,522	199,924	33.2	66.8	100.0
Children of 14 or 15 years ..	3,327	3,330	7,157	58.5	41.5	100.0
Children under 14 years ...	6	150	156	3.8	96.2	100.0
All children under 16 years	3,333	3,480	7,313	52.4	47.6	100.0
All persons over 16 years ..	62,569	130,042	192,611	32.5	67.5	100.0
All employees (as above)	66,402	133,522	199,924	33.2	66.8	100.0

According to Tables VI and VII, about 86 per cent of all employees in the establishments inspected are males, and 14 per cent females. About 96½ per cent of all employees are over sixteen years of age. Of children under sixteen years, all but 156 were over 14. All under 14 were dismissed. About one third of all male operatives and three-eighths of all females, are employed in Milwaukee. Of children less than sixteen years of age, over half are employed in Milwaukee.

TABLE VIII—CLASSIFICATION OF ESTABLISHMENTS ACCORDING TO MANNER AND FREQUENCY OF MAKING PAYMENT OF WAGES.

Classification.	In Milwaukee.		Outside Milwaukee.		In state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Manner—						
Cash	592	70.5	2,183	64.3	2,775	65.5
Checks	227	27.0	1,076	31.6	1,302	30.7
Both	16	1.9	89	1.9	55	1.3
Otherwise, or not reporting	5	.6	100	2.9	105	2.5
Total	840	100.0	3,397	100.0	4,237	100.0
Frequency—						
Weekly	582	69.3	1,771	52.1	2,353	55.5
Semi-monthly	222	26.4	539	15.7	734	17.8
Monthly	30	3.6	995	29.3	1,025	24.2
Not reporting	6	.7	99	2.9	105	2.5
Total	840	100.0	3,397	100.0	4,237	100.0

Table VIII shows that nearly two-thirds of all establishments inspected pay wages in cash, and about 31 per cent by check. Over half pay wages weekly; about a fourth, monthly; and over a sixth, semi-monthly.

TABLE IX—CLASSIFICATION OF EMPLOYEES ACCORDING TO HOURS OF LABOR DAILY.

Classification,	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Persons employed—						
8 hours per day	6,953	10.5	1,497	1.1	8,450	4.2
8½ hours per day	1,000	1.5			1,009	0.5
9 hours per day	6,313	9.5	6,739	5.4	13,052	6.6
9½ hours per day	5,982	9.0	42	0.0	6,024	3.0
10 hours per day	42,215	63.6	116,096	86.9	158,311	79.2
11 hours per day	2,005	3.0	1,451	1.1	4,056	2.0
12 hours per day	1,325	2.0	7,330	5.6	8,661	4.3
Irregular hours			361	0.0	361	0.2
Total	60,403	100.0	133,522	100.0	199,924	100.0

From the above table it is seen that nearly four-fifths of all employees work ten hours per day. In Milwaukee, however, the proportion working ten hours is much smaller—less than two-thirds. In that city nearly 7,000 persons work 8 hours per day; over 6,000 persons, 9 hours; and about 6,000, 9½ hours.

TABLE X—CLASSIFICATION OF ACCIDENTS TO EMPLOYEES.

Classification.	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Fatal	15	0.7	46	3.4	61	1.8
Temporary injury	1,967	98.6	1,224	89.8	3,181	95.0
Permanent injury	13	0.7	92	6.8	105	3.2
Total	1,995	100.0	1,362	100.0	3,347	100.0
To children under 16 years	20	4.5	6	.4	26	2.9

According to Table X, 95 per cent of all injuries suffered by employees during the period covered by this report resulted in only temporary disability. In Milwaukee over 98 per cent of the injuries received were temporary, while for the remainder of the state the proportion was about 90 per cent. For the whole state, nearly 2 per cent of all accidents resulted fatally, and over 3 per cent in permanent injury. Nearly 3 per cent of the accidents befell children of less than sixteen years of age.

TABLE XI—CLASSIFICATION OF BOILERS ACCORDING TO INSURANCE AND INSPECTION.

Classification.	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Insured and inspected.....	728	84.5	2,323	64.4	3,051	68.3
Inspected but not insured..	15	1.7	53	1.5	68	1.5
Total number inspected	743	86.2	2,376	65.9	3,119	69.8
Not inspected	119	13.8	1,229	34.1	1,348	30.2
Total	862	100.0	3,605	100.0	4,467	100.0

As is seen in Table XI, 68 per cent of all boilers in the state were found to be insured. These are inspected by the insurance companies at regular intervals, usually every three months. Somewhat less than 2 per cent of all are inspected regularly although not insured. About 30 per cent of all are never inspected, or but at irregular intervals. This state does not provide for an official Boiler Inspector.

TABLE XII—NUMBER AND HORSE POWER OF BOILERS.

Classification.	Number of establishments using steam power.	Boilers.		Horse power.			
		Number.	Average no. per estab.	Number.	Per cent.	Average no. per boiler.	Average no. per estab.
In Milwaukee . . .	373	892	2.3	110,139	24.7	127.8	205.3
Outside Milwaukee	1,729	3,606	2.0	335,117	75.3	93.0	196.5
Total	2,152	4,497	2.1	445,255	100.0	99.6	206.2

From Table XII it is seen that the number of boilers averages 2 for each establishment using steam power. One fourth of all horse power produced by steam is used in Milwaukee. The average horse power of all boilers is nearly 100, and the average number of horse power used by each establishment, 206.

TABLE XIII—NUMBER AND EXPERIENCE OF ENGINEERS.

Classification.	In Milwaukee.	Outside Milwaukee.	In state.
Number of engineers reported	364	1,509	1,933
Average number of years' experience	18	14	15
Average number of years in present service	7	6	6

The average number of years' experience of the engineers reported is seen to be 15 years; the average time employed in the present position, 6 years.

TABLE XIV—KIND OF POWER USED.

Classification.	In Milwaukee.		Outside Milwaukee.		In state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Establishments using						
Steam power	373	44.4	1,796	52.6	2,150	51.0
Electric power	268	24.2	404	11.9	307	14.3
Water power			226	6.6	226	5.8
Gas power	158	18.3	634	18.7	792	18.7
Hand power	23	2.7	173	5.1	196	4.6
Other power	79	9.4	34	1.0	113	2.7
No power	4	.5	140	4.1	144	8.4
Total	840	100.0	3,307	100.0	4,237	100.0

According to Table XIV, over half of all establishments inspected use steam power. In Milwaukee, electricity ranks second as a motive power; but outside that city, and for the state as a whole, gas is second.

TABLE XV—NUMBER OF ESTABLISHMENTS HAVING COMMUNICATION BETWEEN WORK ROOMS AND ENGINE OR POWER ROOM.

Classification.	Having communication.		Without communication.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
In Milwaukee	207	23.0	633	19.0	840	19.8
Outside Milwaukee	683	77.0	2,704	81.0	3,397	80.2
Total in state	900	100.0	3,337	100.0	4,237	100.0

TABLE XVI—KIND OF COMMUNICATION.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Electric bells	107	51.7	287	41.4	394	43.8
Telephones	56	27.5	17	2.5	73	8.1
Speaking tubes	3	1.5	18	1.9	16	1.8
Whistles	13	5.8	353	50.8	366	40.4
Other means	29	14.0	24	3.4	53	5.9
Total	207	100.0	693	100.0	900	100.0

From Tables XV and XVI it is seen that of the 4,237 establishments inspected only 900 had means of communication between work-rooms and the power room. The law provides that the inspectors may require the installation of speaking tubes or electric bells whenever they may deem such means of communication necessary, in establishments using steam power. Of the 2,159 establishments in which steam power is used, means of communication were ordered for all in which the work-rooms were so separated from the power room as to make some such means needful. Of the means already in use, electric bells were found to be the most common.

TABLE XVII—FIRE ESCAPES AND BALCONIES.

Classification.	Fire escapes.		Balconies attached.	
	Number.	Per cent.	Number.	Per cent.
In Milwaukee	905	64.2	572	72.7
Outside Milwaukee	237	35.8	215	27.3
Total	942	100.0	787	100.0

According to Table XVII, 942 fire escapes were inspected, about two-thirds of which are in Milwaukee. All but 33 of the fire escapes in that city were found to be provided with balconies as required by law. Outside of that city, however, only two-thirds of the fire escapes had balconies attached. Fire escapes were ordered for all buildings three or more stories high, in which 25 or more persons were employed, if such means of escape were not already provided.

TABLE XVIII—NUMBER OF BUILDINGS HAVING STANDPIPES, HOSE CONNECTIONS, AND AUTOMATIC SPRINKLERS.

Classification.	Outside pipes.		Inside pipes.		Hose connections.		Automatic sprinklers.	
	No.	Per ct.	No.	Per ct.	No.	Per ct.	No.	Per ct.
In Milwaukee	485	61.4	195	21.7	593	49.3	292	59.0
Outside Milwaukee	305	38.6	704	78.3	616	60.7	203	41.0
Total in state....	790	100.0	899	100.0	1,214	100.0	495	100.0

All buildings requiring fire escapes must have a wrought iron standpipe attached thereto except such structures as are equipped with automatic sprinklers. A large number of establishments have provided their buildings with standpipes even when no fire escape was required. It will be seen from Table XVIII that the majority of outside standpipes were found in Milwaukee, while the greater number of inside pipes are outside that city.

TABLE XIX—NUMBER OF STAIRWAYS AND OTHER MEANS OF DESCENT FROM STORIES ABOVE GROUND FLOOR.

Classification.	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Inside stairways	1,810	80.7	716	55.8	2,526	62.0
Outside stairways	304	10.2	98	9.0	402	9.9
Stairways	39	1.3	18	1.7	57	1.4
Elevators	809	27.1	250	23.0	1,059	26.0
Other means	21	0.7	6	0.5	27	0.7
Total	2,983	100.0	1,068	100.0	4,051	100.0

As is seen from Table XIX, inside stairways form the principal means of descent from upper to lower stories of the establishments inspected. Elevators constitute about one-fourth the total, the proportion being higher in Milwaukee than out of that city.

TABLE XX—KIND OF DOORS USED ON ELEVATORS.

Classification.	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Automatic doors	225	27.8	331	34.1	556	31.3
.....	201	24.9	310	32.0	511	28.8
.....	80	11.0	26	2.7	116	6.5
.....	153	19.9	173	17.9	326	18.2
.....	141	17.4	129	13.3	270	15.2
.....	800	100.0	969	100.0	1,769	100.0

Referring to Table XX, of the means used to guard an elevator shaft automatic doors are the kind in most general use.

TABLE XXI—NUMBER OF EMERY AND POLISHING WHEELS, AND NUMBER OF SUCH WHEELS HAVING SUCTION DEVICES AND GUARDS.

Classification.	Wheels.		With suction devices.		With guards.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
In Milwaukee	874	30.9	157	22.7	133	23.7
Outside Milwaukee	1,951	69.1	535	77.3	427	76.8
Total in state	2,825	100.0	692	100.0	560	100.0

The law requires that polishing wheels shall be provided with such guards and suction devices as shall properly protect the operator from the particles of dust produced by the use of the wheels. From Table XXI it is apparent that less than a fifth of the wheels inspected in Milwaukee were so provided, while the proportion was but slightly larger outside that city. A large number of the emery wheels inspected, however, are used only for grinding, while many others could not be provided with the required device without impairing the use of the wheels. In such cases the wheels are exempt from the provisions of the law.

TABLE XXII—NUMBER OF VATS AND PANS HAVING GUARDS, AND NUMBER NOT SO PROVIDED.

Vats and pans.	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Guarded	827	79.5	1,713	83.4	2,540	92.1
Not guarded	213	20.5	340	16.6	553	17.9
Total	1,040	100.0	2,053	100.0	3,093	100.0

The law stipulates that stationary vats, pans, and other vessels into which molten metal or hot liquids are poured, or in which they are kept, shall be surrounded with proper safeguards for the protection of employees. According to Table XXII, over four-fifths of all vats and pans inspected were found to be properly guarded. Guards were ordered for all vessels not already so provided.

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NUMBER OF DOORS AND OTHER EXITS FROM FIRST FLOOR AND BASEMENT.

	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
.....	7,166	93.1	24,298	97.4	31,450	96.8
.....	529	6.9	512	2.6	1,041	3.2
er	7,395	100.0	24,805	100.0	32,500	100.0

it from Table XXIII that the exit from a large he buildings inspected is from the first floor. The he basement in less than 7 per cent of the build- aukee, and in only 2½ per cent of the buildings ity.

BLE XXIV—HOW DOORS OPEN OR SWING.

ion.	In Milwaukee.		Outside Milwaukee.		In state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
n	3,811	49.5	12,165	49.6	15,976	49.2
out	1,872	21.7	5,130	20.7	6,902	20.9
both ways	11	0.3	197	0.8	198	0.6
.....	1,974	24.4	6,563	26.4	9,427	25.9
.....	249	3.2	227	1.3	576	1.8
.....	78	1.0	443	1.8	521	1.6
.....	7,695	100.0	24,805	100.0	32,500	100.0

ent from Table XXIV that only a fifth of the establishments inspected were found to swing out- aw stipulates that doors of factories etc., shall d, unless in the judgment of the inspector this necessary. Wherever it was deemed advisable by , orders were issued for changing the doors to l.

TABLE XXV—NUMBER OF BUILDINGS HAVING MECHANICAL VENTILATION, AND NUMBER AND CONDITION OF WATER CLOSETS.

Classification.	Mechanical ventilation.		Closets.		Closets in bad condition.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
In Milwaukee	115	90.6	3,497	34.5	292	75.7
Outside Milwaukee	12	9.4	6,639	65.5	84	24.3
Total	127	100.0	10,136	100.0	346	100.0

The law requires that a fan or similar mechanical device shall be provided for carrying away dust and other impurities in every factory in which any process is carried on by which dust or fumes are produced. Table XXV shows that 127 establishments were found to be provided with some mechanical means of ventilation. Nearly all were in Milwaukee. It was found necessary to order the installation of such means in a large number of establishments, as is seen in Table XXVII. Of 10,136 closets inspected, 346 were found in bad condition and were ordered improved.

TABLE XXVI—NUMBER OF BUILDINGS PROVIDED WITH SEATS FOR FEMALES.

Classification.	Buildings.	
	Number.	Per cent.
In Milwaukee	260	52.3
Outside Milwaukee	237	47.7
Total	497	100.0

The law requires that every establishment employing female help shall provide suitable seats for the females employed, and shall permit the use of such seats by them when they are not necessarily engaged in the active duties for which they are employed. According to the table, 497 buildings were found to be provided with seats in accordance with the law. Orders were issued in 10 other establishments, to provide the required seats.

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XVII—ORDERS ISSUED AND RECOMMENDATIONS MADE IN CONNECTION WITH INSPECTION OF THE FACTORIES AND WORK-PLACES INCLUDED IN THE FIRST TABLE.

Classification.	In Milwaukee.		Outside Milwaukee.		Total in state.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
labor			9	0.3	9	0.1
under 14 years	57	1.4	84	2.3	141	1.8
of 14 or 15 years	234	5.9	423	11.6	657	8.5
	4	0.1			4	0.1
	187	4.6	26	0.7	203	2.6
ladders or stands			123	3.4	310	4.0
	17	0.4	64	1.8	81	1.1
	45	1.1	68	1.9	113	1.5
	65	1.6	108	2.9	173	2.3
communication	13	0.3	60	1.7	73	0.9
	2,412	59.1	1,612	44.5	4,024	52.2
wheels	307	7.5	531	16.0	838	11.5
pans	8	0.2	19	0.5	27	0.3
	39	1.0	40	1.1	79	1.0
and sanitation	589	14.3	360	9.9	949	12.1
female employees			10	0.3	10	0.1
others	93	2.3	39	1.1	132	1.7
	4,053	100.0	3,622	100.0	7,675	100.0

According to Table XXVII, 7708 orders were issued during the period covered by this report, over half of which were issued in establishments in Milwaukee. The failure to guard properly was the occasion for the issuance of more than half of the orders. Orders pertaining to ventilation and lighting were second in importance in Milwaukee, while outside city orders for the guarding of polishing wheels were third.

A comparison between the orders issued during the last biennial period and during the preceding period is made in the table on page 1307.

INSPECTION OF CIGAR FACTORIES, MERCANTILE ESTABLISHMENTS, AND PUBLIC BUILDINGS.

In addition to the inspection of factories and workshops, the law requires inspection of a large number of other places of employment or entertainment. Among the latter are: cigar factories, mercantile establishments, armories, bowling alleys, schools, churches, hotels, hospitals, etc. Owing to there being a much greater necessity for the frequent inspection of factories where violations of the law are most frequent and the inducement for violations the strongest, and also because many of the other places required to be inspected are situated in villages and towns not frequently visited by inspectors because no factories are located there, the proportion of such places inspected is not so large as the proportion of the factories of the state inspected.

The different industries and factories of the state are capable of definite classification and the inspection returns can be compiled, admitting of generalizations; but this is not true of the other places inspected. Nearly all of such establishments and institutions are housed in a single building and in the majority of cases the building is not a large one, thus offering much less danger to the occupants and also exempting the structures from the application of statutes which are most important in respect to larger buildings. Because of the great variety in size and nature of the buildings inspected no separate compilation of facts in regard to each class of buildings has been possible. But the following table contains a fair summary of the work done in connection with the inspection of all buildings of this general character.

PLACES INSPECTED AND ORDERS ISSUED.

Orders, recommendations, etc.	Number of orders issued in							Total.
	Armories, dance halls, lodge halls, theaters.	Bowling alleys	Cigar factories.	Colleges, convents, schools.	Asylums, churches, hospitals.	Hotels, lodging houses.	Mercantile establishments.	
Children dismissed		3	47			2	164	216
Permits issued			31			1	15	47
Registers of children employed			12					12
Seats for women							46	46
Separate rooms for women			4					4
Hours of labor			3			1	15	19
Licenses issued			159					159
Licenses revoked			1					1
Buildings	17		5		4	4		30
Stairways	11		3	3	2	2	1	22
Elevators			1	1	3	7		19
Doors	41		5	7	40	86	20	149
Fire-escapes	43			37	26	162	4	277
Red lights	20					230		250
Hempen ropes						492		492
Stand pipes				1		10		11
Signs and notices	18			1	1	1,233		1,253
To vacate rooms			9					9
Sanitation and ventilation	5		127	27	1	5	29	194
Machinery				7	3	10		20
Signals						1		1
Other recommendations			1		21	1		23
Total orders, etc.	100	3	438	84	106	2,302	296	3,289
Number of buildings inspected	184	74	1,025	128	60	273	228	1,368

Of the 1986 establishments inspected, over one-half were cigar factories. The largest number of orders issued, however, was in connection with the inspection of hotels and lodging-houses. It was found that a large number of these establishments were exceedingly delinquent in the matter of providing adequate fire protection for their guests, and the orders issued were in consequence, with but few exceptions, directed to the rectification of these conditions. In the case of mercantile establishments the majority of the orders issued were for the dismissal of children beneath the legal age.

PERMITS.

The Child Labor Law requires that before a child between the ages of fourteen and sixteen years may be employed at any gainful occupation at any place he must obtain from either an official of this Bureau or a duly authorized judge a written permit authorizing such employment. A child between the ages of twelve and fourteen years may, during the vacation of the public school of the town where the child resides, be employed in certain establishments and at certain occupations, provided he has first secured a vacation permit entitling him to be so employed.

During the biennial period ending October 31st, 1906, a total of 16,458 permits were granted in this state. Of this number, 11,958 were issued by the commissioner or the factory inspectors, and 4,500 by judges in various counties of the state. Attention has already been called to the fact that the number of permits granted is not an exact indication of the number of children actually employed. A number who obtained permits failed to secure work. Many became sixteen years of age shortly after obtaining their permits, and so passed out of the permit class. In the case of a large number of children, a permit was granted for only a year and had therefore to be renewed upon its expiration if the child was still under sixteen. Evidently therefore the number of children actually at work at any given time during the two-year period must have been very much less than the number of permits issued during the whole period.

The following tables present certain facts relative to the permits granted and to the children who secured them. By reason of a misunderstanding in regard to the information desired by the Bureau, all but one of the judges who issued permits failed to report to this office as to the persons with whom each child lived, or as to the previous school attendance of each. Tables II-VII are therefore based upon facts ascertained in connection with the granting of only 11,993 permits, which were issued by officials of this department and by one county judge who submitted the required data. It is probable, however, that the percentages so found will not differ materially from those which result from a compilation of the data relating to the entire number of permits granted.

TABLE I—NUMBER AND PERCENTAGE OF MALE AND OF FEMALE CHILDREN WHO RECEIVED REGULAR OR VACATION PERMITS.

Classification.	Regular permits.		Vacation permits.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Male	10,052	63.8	576	81.3	10,628	64.6
Female	5,007	39.9	133	18.7	5,830	36.4
Total	15,749	100.0	709	100.0	16,459	100.0

From Table I it is seen that about five-eighths of the regular permits granted were issued to male children, and but three-eighths to females. Of the children between the ages of twelve and fourteen, who sought work only during the school vacation, over four-fifths were males.

TABLE II—CHILDREN RECEIVING REGULAR OR VACATION PERMITS CLASSIFIED AS TO THE PERSONS WITH WHOM THEY RESIDE.

Residing with—	Regular permits.		Vacation permits.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Parents	9,845	85.2	389	78.3	10,194	84.9
Father	218	1.9	10	2.3	228	1.9
Mother	1,132	9.8	75	17.3	1,307	10.1
Other relative	308	2.6	8	1.9	316	2.6
Guardian	9	0.1	.....	.....	9	0.1
Other person	48	0.4	1	0.2	49	0.4
Total	11,560	100.0	483	100.0	11,993	100.0

Table II shows that five-sixths of all children that obtained permits reside with their parents, about one tenth with their mother, and the others with their father, guardian or other person. It appears exceedingly likely, therefore, that it was in only a small percentage of cases that the child obtaining the permit was the chief means of support of the family of which he was a member.

TABLE III--CHILDREN RECEIVING REGULAR OR VACATION PERMITS CLASSIFIED AS TO NUMBER OF YEARS' PREVIOUS PUBLIC SCHOOL ATTENDANCE.

Public school attendance	Regular permits.		Vacation permits.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
One year	9	0.2	.....	.....	9	0.2
Two years	17	0.3	4	1.4	21	0.4
Three years	17	0.3	.....	.....	17	0.3
Four years	67	1.3	5	1.7	72	1.3
Five years	223	4.3	30	10.6	253	4.7
Six years	562	10.9	53	18.7	615	11.3
Seven years	1,375	26.7	110	23.7	1,485	27.3
Eight years	1,736	34.6	68	24.0	1,804	34.1
Nine years	844	16.4	14	4.9	858	15.8
Ten years	256	5.0	.....	.....	256	4.7
Total	5,156	100.0	284	100.0	5,440	100.0

According to Table III, permits were granted to 5,440 children who had previously attended a public school. Seven or eight years was the average period of such attendance. Ninety-nine per cent of all had attended school for four years or longer. Twenty per cent had attended for either nine or ten years.

TABLE IV--CHILDREN RECEIVING REGULAR OR VACATION PERMITS CLASSIFIED AS TO NUMBER OF YEARS' PREVIOUS PAROCHIAL SCHOOL ATTENDANCE.

Parochial school attendance.	Regular permits.		Vacation permits.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
One year	8	0.2	.....	.....	8	0.2
Two years	24	0.5	.....	.....	24	0.5
Three years	75	1.7	1	1.0	76	1.7
Four years	191	4.4	9	8.9	200	4.5
Five years	523	12.2	14	13.3	543	12.3
Six years	893	20.8	33	31.4	931	21.0
Seven years	1,415	33.9	39	37.1	1,504	34.0
Eight years	876	20.3	9	8.6	885	20.0
Nine years	231	5.3	.....	.....	231	5.2
Ten years	24	0.5	.....	.....	24	0.6
Total	4,330	100.0	105	100.0	4,425	100.0

From Table IV it is seen that 4,425 of the children that secured permits had previously attended parochial schools. The average length of such attendance was between six and seven years. Only six per cent had attended school for more than eight years.

TABLE V—CHILDREN RECEIVING REGULAR OR VACATION PERMITS CLASSIFIED AS TO NUMBER OF YEARS THEY HAD PREVIOUSLY ATTENDED BOTH PUBLIC AND PAROCHIAL SCHOOLS.

Attendance at both public and parochial schools.	Regular permits.		Vacation permits.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
One year						
Two years	3	0.2			3	0.2
Three years	3	0.2			3	0.2
Four years	18	1.0	1	2.3	19	1.0
Five years	73	3.8	5	11.4	78	4.0
Six years	233	12.1	9	20.4	242	12.3
Seven years	584	30.4	19	43.2	603	30.7
Eight years	636	33.2	9	20.4	645	32.8
Nine	292	15.2	1	2.3	293	14.9
Ten years	76	3.9			76	3.9
Total	1,915	100.0	44	100.0	1,962	100.0

Of all children that obtained permits, 1,962 had attended both public and parochial schools. The average length of such attendance was from seven to eight years. All but one and one half per cent had attended school five years or more, while about nineteen per cent had attended for more than eight years.

TABLE VI—CHILDREN RECEIVING REGULAR OR VACATION PERMITS CLASSIFIED AS TO NUMBER OF YEARS' PREVIOUS SCHOOL ATTENDANCE.

School attendance.	Regular permits.		Vacation permits.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
With no school attendance.	36	0.3			36	0.3
One year	27	0.2			27	0.2
Two years	54	0.5	4	0.9	58	0.5
Three years	104	0.9	1	0.2	105	0.9
Four years	290	2.5	15	3.5	305	2.5
Five years	845	7.3	49	11.3	894	7.4
Six years	1,719	14.9	95	21.8	1,814	15.1
Seven years	3,445	29.8	168	38.9	3,613	30.2
Eight years	3,318	28.7	86	19.9	3,404	28.4
Nine years	1,569	11.8	15	3.5	1,584	11.5
Ten years	357	3.1			357	3.0
Total	11,530	100.0	433	100.0	11,963	100.0

Table VI is in part a summary of Tables III-V, but includes also those children who attended school in a foreign country and those who had attended no school whatever. The average length

of attendance is again seen to have been between seven and eight years. Only two per cent had had less than four years' experience in school.

TABLE VII—SUMMARY. CHILDREN RECEIVING REGULAR OR VACATION PERMITS CLASSIFIED AS TO KIND OF SCHOOL ATTENDED.

Children having attended—	Regular permits.		Vacation permits.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Public school	5,156	44.6	234	65.6	5,440	45.4
Parochial school	4,320	37.4	105	24.3	4,425	36.9
Both public and parochial.	1,918	16.6	44	10.3	1,962	16.3
Foreign school	130	1.1	.....	.....	130	1.1
No school	36	0.3	.....	.....	36	0.3
Total	11,560	100.0	433	100.0	11,993	100.0

From Table VII it is seen that forty-five per cent of all children who were granted permits had attended public schools only; thirty-seven per cent., parochial schools only; and sixteen per cent., both public and parochial schools. One per cent of those who obtained permits had attended school in a foreign country. Less than a third of one per cent had attended no school. In the last report of this Bureau attention was called to the fact that a larger percentage of the children who applied for permits had attended parochial schools than had attended public schools although only a fourth of the children of school age in Wisconsin were in parochial schools. The report of the State Superintendent for the years 1904-1906 shows that for those years the number of children who had attended parochial schools was about one-fourth the number of those who had attended public schools. From the above table it is apparent that the number of permits granted to parochial school children is three-fourths the number issued to children who had attended public school. The percentage of permits granted to parochial school children is again somewhat higher, therefore, than would be expected from the proportion of such children in the state.

CONCLUSION.

Such part of the work of the factory inspectors as can be expressed in tabular form is summarized in the four tables following. For purposes of comparison, the tables include also a summary of the work performed during the eighteen months immediately preceding the period covered by this report.

TABLE I—INSPECTIONS MADE.

Classification of buildings and places inspected.	1903-1904.		1905-1906.	
	No. of inspections.	Per cent.	No. of inspections.	Per cent.
Factories and workshops	8,919	89.4	16,843	77.6
Cigar factories	408	4.1	2,511	11.6
Mercantile establishments	158	1.6	1,012	4.7
Bowling alleys	94	0.9	217	1.0
Hotels, lodging-houses, etc.	170	1.7	493	2.2
Colleges, convents, schools	36	0.4	220	1.0
Armories, theatres, public halls	25	0.2	301	1.4
Asylums, churches, hospitals	26	0.3	104	0.5
Other places	140	1.4		
Total	9,976	100.0	21,701	100.0

From Table I it is seen that 21,701 inspections were made during the period of two years covered by this report. In the preceding period—of eighteen months—the number made was 9,976. A part of this increase is due to the fact that the Bureau had four more inspectors during ten months of the last biennial period than at any time previous. In each period over three-fourths of the inspections were of factories and workshops, the proportion of such inspections in the earlier period being nearly 90 per cent. Practically every factory was inspected twice during the later period. A large number were inspected as many as six times, inspections having been made as often as it was thought necessary. The number of establishments of each class inspected has been given in preceding tables, (pages 1284 and 1300).

TABLE II—ORDERS ISSUED AND SUGGESTIONS MADE.

Classification.	1903-1904.		1905-1906.	
	No.	Per cent.	No.	Per cent.
Orders or suggestions relating to—				
Hours of labor	73	0.7	—	—
Children under 14 years	600	5.7	357	3.3
Children of 14 or 15 years	454	4.2	688	6.4
Wages	—	—	4	0.0
Bollers	7	0.1	26	0.3
Buildings	188	1.7	340	3.2
Fire-escapes or standpipes	213	2.0	369	3.4
Hempen ropes, red lights, etc.	—	—	2,000	18.6
Stairways	114	1.1	135	1.3
Elevators	103	0.9	192	1.8
Means of communication	83	0.8	74	0.7
Machinery	3,276	30.7	4,044	37.6
Polishing wheels	317	3.0	888	8.2
Vats and pans	17	0.2	27	0.3
Doors	241	2.2	228	2.1
Ventilation and sanitation	1,304	12.2	1,136	10.5
Seats for female employees	215	2.0	53	0.5
Other matters	3,474	32.5	168	1.5
Total	10,679	100.0	10,760	100.0

The largest number of orders issued pertained to the proper guarding of machinery, as in the preceding period. A rigorous enforcement of the law requiring the use, in hotels and other public buildings, of red lights and other measures for protection in case of fire, led to the issuance of over 18 per cent of the orders. The next largest number, amounting to 10 per cent of the total, were directed toward the establishment of proper sanitary conditions. It is worthy of notice that the total number of orders issued, 10,760, was but slightly greater than the number issued during the eighteen months just preceding. It is of course evident that when the orders issued for any establishment have once been fully complied with, but few additional orders will have to be issued upon subsequent inspections.

LABOR AND INDUSTRIAL STATISTICS.

TABLE III—OTHER DUTIES PERFORMED.

Classification.	1903-1904.		1905-1906.	
	Number.	Per cent.	Number.	Per cent.
Issued	9,994	88.8	11,528	93.4
Issued to cigar factories.....	907	8.1	430	3.5
Permits revoked.....			112	0.9
to sweat-shops.....	49	0.4	2	0.0
Permits revoked	9	0.1		
.....	157	1.4	64	0.5
Inspections.....	135	1.2	203	1.7
.....	11,251	100.0	12,339	100.0

summarizes the duties which were performed by the addition to those included in Tables I and II. of permits is seen to have constituted nearly 97 per cent. of the total number of such acts. It should be noted that a large part of the work performed by the inspectors varied to be classified in the form of statistical investigation of such work consisted of the investigation of alleged violations of the child labor law; the enforcement of the inspectors, in their capacity as truancy officers, compulsory education law; assisting in the collection of statistics relating to the manufacturing and mining industries of the state, to municipal and contract labor, to labor accidents occurring to employees; and the investigation of conditions affecting the health and general well-being of the working classes. Part IV of this report, The House of Representatives of Wisconsin, records the results of one such study. A considerable amount of time was spent also in attending to the duties involved in the work; in formulating orders for the inspection of places inspected; in conferences with merchants, owners of buildings, officials of the departments of police, fire, health, education, and building and with representatives of various associations of employers in filing the duplicates of permits issued, and in making inquiries from these; in tracing children who had obtained permits and who were reported to be still in the opening of school; and in visits to establishments for various purposes but not counted as inspections, as, for example, in locating a new fire-escape, to explain how to

guard certain machinery—especially new machinery—or to explain other changes in cases where the foreman or the company architect was absent when the inspection was made and the changes ordered.

TABLE IV—SUMMARY OF WORK PERFORMED BY INSPECTORS.

Classification.	No. in 1903-1904.	No. in 1905-1906.
Inspections made	9,976	21,701
Orders issued	10,679	10,780
Other acts	11,261	12,330
Total	31,906	44,800

Table IV summarizes the data contained in Tables I to III. A total of 44,800 acts were performed by the inspectors during the two years ending October 31st, 1906. The chief increase over the preceding period was in the number of inspections made.

In conclusion it may be said that the Bureau has found an increasing friendliness on the part of manufacturers and other employers in the state toward the officials of this department. It has been the aim of the Bureau to secure the enforcement of the factory laws in a manner that would cause as little annoyance to the employer as possible, while none the less effective in accomplishing the purposes expressed in the laws. It is believed that employers as a whole realize that a proper provision for the health and safety of their employees means ultimately the furtherance of their own interests. The co-operation of a large majority of them in the work carried on by the department, and the readiness with which suggestions and orders were complied with—only sixty-four prosecutions having been found necessary during the last two years—are taken as an expression of this attitude on their part. For the courtesies extended by them to officials of the department on various occasions the Bureau takes this opportunity of expressing its thanks.

BAKERY INSPECTION.

As was stated in the last report of this Bureau, the Legislature of 1903 passed a law providing for the sanitary regulation of bakeries and confectionery establishments. The enforcement of the provisions of this law was made the duty of this Bureau and its agents. The provisions of the law are given in detail in the report mentioned and need not be repeated here.

The facts ascertained by the bakery inspector in the course of his inspection, and the orders issued, are presented in tables of the same general form as those setting forth similar facts relating to the factories inspected. The explanation prefixed to that set of tables is therefore applicable to the following tables also. Additional comment is appended to the tables when considered necessary.

TABLE I—SHOWING NAME AND LOCATION OF BAKERIES AND CONFECTIONERIES INSPECTED, HOURS OF LABOR REQUIRED IN EACH ESTABLISHMENT, AND THE CLASSIFICATION OF EMPLOYEES AS TO AGE AND SEX.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Abbotsford, Clark Co.— Harrer, G.	10	.....	.....	.....	.....
Algoma, Kewaunee Co.— Weber, Joseph	10	.....	.....	.....	.....
Alma, Buffalo Co.— Ruben, M.	10	.....	.....	.....	.....
Antigo, Langlade Co.— Du Bois & Co.	10	.....	2	2	.....
Huebner, Paul	10	.....	1	1	.....
Schlemmer, J.	10	5	2	7	.....
Smith & Co., Geo.	10	3	1	4	.....
Total		8	6	14	.....

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Appleton, Outagamie Co.—					
Bilster, W. F.	12				
Doerfler, J.	15	1		1	
Gmeiner Bros.	14		2	2	
Holzer, Conrad	12	1		1	
Huckins Bros.	6				
Kalodes, A.	12		1	1	
Kohler, Peter	10				
Kutler, L. F.	10	4	2	6	
Leithen, W.	9		1	1	
Nichols, E. G.	6		1	1	
Pfefferle, A.	11	2		2	
Roberts, C.	12	2	1	3	
Stengel, Anton	12	2		2	
Total		12	7	19	
Ashland, Ashland Co.—					
De Muth, W. L.	10	2		2	
Johnson, Adolph	10	11		11	
Stevenson, John	10				
Wickland, Carl	12½	2		2	
Wikstrand, Ole	10	2	1	3	
Total		17	1	18	
Baraboo, Sauk Co.—					
Arndt, F. M.	10				
Bunn, J. C.	10				
Hein, Aug.	10	1	1	2	
Luethé Bros.	10	1		1	
Total		2	1	3	
Barron, Barron Co.—					
Benson, C. J.	10	1	2	3	
Hunt, W. C.	10		1	1	
Total		1	3	4	
Bayfield, Bayfield Co.—					
Flanders, O.	10				
Lambert, John	10				
Beaver Dam, Dodge Co.					
Brower, C. D.	6	1		1	
Knaak, J. B.	11	2	1	3	
Krueger, G.	10		1	1	
Newton, T.	10	2	1	3	
Total		5	3	8	
Beloit, Rock Co.—					
Corcoran, T. D. & Bro.	10	14	3	17	
Jobe, A.	4				
Kenzle, C. G.	10	10	2	12	
Rohner, A.	10				
Smiley, A. L.	10	6	2	8	
Total		30	7	37	
Berlin, Green Lake Co.—					
Boettge, C. M.	11	2		2	
Ludwig, Otto	11	1	1	2	
Rogers, G. A.	10	1		1	
Thomas & Maltland	10		2	2	
Total		4	3	7	

LABOR AND INDUSTRIAL STATISTICS.

I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Food, Shawano Co.—					
Baker, Mrs. Mary	10				
Mer Falls, Jackson Co.—					
Harry	10	1		1	
Wm.	10	1		1	
.....		2		2	
Chippewa Co.—					
.....	19	1		1	
Grant Co.—					
I, C. A.	10	1	1	2	
Calumet Co.—					
nn, W.	10				
Green Co.—					
k, G. J.	8	3		3	
A. E.	10	3		3	
.....		6		6	
n, Racine Co.—					
s Bros.	10		1	1	
stadt, C.	10	1		1	
J. G.	10				
.....		1	1	2	
r, Ozaukee Co.—					
Charles A.	11	2	1	3	
Jos.	13	2		2	
s, G.	10				
.....		4	1	5	
harron Co.—					
i, C. N.	10				
George	8	1		1	
.....		1		1	
Calumet Co.—					
G.	10	1	1	2	
Falls, Chippewa Co.—					
J. E.	10	2	1	3	
n, W. E.	8	1	1	2	
F. R.	10		2	2	
ald, A.	10	1	5	6	
s Store	10	1	1	2	
.....		5	10	15	
le, Waupaca Co.—					
rdt, G.	10		1	1	
land, S. N.	10				
.....			1	1	
, Columbia Co.—					
W. G.	10	2	1	3	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Crandon, Forest Co.—					
Day, C. H.	10				
Cuba, Grant Co.—					
Byrne Bros.	7	2		2	1
Carnielson, C. I.	10	1		1	
Total		3		3	1
Cudahy, Milwaukee Co.—					
Vogl, H.	10	2		2	
Cumberland, Barron Co.—					
Coleman, J. P.	10	1	1	2	
Hufsland, Gus	10		1	1	
Poukey, Mrs. S.	10				
Woodcock, H.	10		1	1	
Total		1	3	4	
Darlington, Lafayette Co.—					
Harney & Martin	10	1	1	2	
Hocking, F. C.	7	1		1	
Total		2	1	3	
Delavan, Walworth Co.—					
Balley, J. W.	13	2	1	3	
Schlada, C. F.	10	3	2	5	
Total		5	3	8	
DePere, Brown Co.—					
Cancllakes, T.†	2		1	1	
De Jonghe, C.	10				
La Count, Mrs. M.	10				
Sampler, W. H.	11	1	1	2	
Vander Brand, John	10				
Van De Walle, P.	10	1		1	
Wassingberg Bros.	11	1		1	
Total		3	2	5	
Dodgeville, Iowa Co.—					
Brenner, C. H.	10				
Eagle River, Vilas Co.—					
Rautz, C. W.	13				
Roderick, Mrs. J.	10				
Eau Claire, Eau Claire Co.—					
Dookakos, Geo.†	6	1	1	2	
Mender, R. L. & Co.†	10	10	17	27	
Palace of Sweets*	13	3	2	5	
Smith Baking Co.	11	8		8	
Steady, M. B.†	9	4	3	7	
Stensland, A.	10	3	1	4	1
Total		29	24	53	1
Edgerton, Rock Co.—					
Leedle & Co.	10				
Elkhorn, Walworth Co.—					
Robinson, J. H. & Son	10	1		1	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Ellsworth, Pierce Co.—					
Miller, J. J.	8	1	2	3	
Evansville, Rock Co.—					
Eastman, J. O.	10				
Heffel, W. H.	10		1	1	
Story, C. E.	8				
Tullar, W. D.	10				
Fennimore, Grant Co.—					
Duster, John	19				
Florence, Florence Co.—					
Hillberg, G. O.	10				
Fond du Lac, Fond du Lac Co.—					
Allen, Mrs. W. H.	10		1	1	
Arviretz, J.†	5	2		2	
Boex-Holman Co.†	10	29	62	91	7
Buxa, N. W.	10	2	1	3	
Columbia Candy Kitchen†	10	2	2	4	
Gerhard, J. W.	11	8	3	11	
Hope, Geo. (estate)†	10	3	3	6	
Jens, A.†	10		1	1	
Kuene, A.	13				
Pick, F. C.	11	2		2	
Schulz, Fred	10	1		1	
Snow Bros.	10	6		5	
Willis, George	10				
Total		54	73	127	7
Fort Atkinson, Jefferson Co.—					
Shiley, H. B.	10	1	1	2	
Spooner, F. I.	10	2	2	4	
Total		3	3	6	
Grand Rapids, Wood Co.—					
Barnes, W. H.†	10				
Herschleb, H. A.	11				
Petrick, August	11	1		1	
Total		1		1	
Green Bay, Brown Co.—					
Annen Candy & Biscuit Co.*	10	54	61	115	30
Ayoub & Gorra,†	10	2	1	3	
Boston Candy Co.†	6	2	1	3	
Brenner-Gazette Co.†	10	17	38	55	8
Chase, M. H.†	10		2	2	
Clement & Groth†	10		2	2	
Kees, Mrs.	10		1	1	
Leich, F. C. & Co.	4	1		1	
Micksch, J. V.	12	6	1	7	
Orsle, E.†	3		2	2	
Rockstroch, J. C.	13				
Rzeszotarski, S.	10	2		2	
Smeets & Co.	11	4		4	
Soper & Brans	11	3		3	
Willaert, H.	10½	9	1	10	
Total		100	110	210	38

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Hartford, Washington Co.—					
Baumgartli, A.	10	1	1	2	
Thoma, H.	9	2		2	
Total		3	1	4	
Hartland, Waukesha Co.—					
Cradler, Mrs. Mary ..	10	1		1	
Hayward, Sawyer Co.—					
McCurety, Chas.	10		1	1	
Holcon, Dodge Co.—					
Miller, G. V.	10		1	1	
Hudson, St. Croix Co.					
Crandall Bros.	10	2		2	
Crocker & O'Connell Co.	10	2		2	
Hoffman, D.	10				
Nyhns, T.	3				
Singleman, H. M.	10	4		4	
Streeter, E. H.†	5				
Total		9		9	
Hurley, Iron Co.—					
Reibel, E. M.	10	1		1	
Vezette, Joseph	10	1		1	
Total		2		2	
Iron River, Bayfield Co.—					
Landry, Ed.	8				
Janesville, Rock Co.—					
Bennison & Lane	11	16		16	
Colvin Baking Co.	10	20	1	21	
Forzly Bros.†	5				
George, Frank†	3	1	1	2	
Gherke, Paul	10				
Grub & Lowell	10	2		2	
Janesville Candy Kitchent.	5	2		2	
Phillips, Geo. N.†	10				
Razook, Allie†	10	2		2	
Reilley, T. F.	11	2		2	
Total		45	2	47	
Jefferson, Jefferson Co.—					
Nuernberger, Mrs. G.	10	1		1	
Schweiger, E. A.†	10				
Spangler Bros.	10	1		1	
Total		2		2	
Kaukauna, Outagamie Co.—					
Raught, Wm.	12		3	3	
Steppen, Joseph	13	1		1	
Wiggers, F.	11	2		2	
Total		3	3	6	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Kenosha, Kenosha Co.—					
Clement, S.	6				
Deslmona, C.	6				
Faber & Co.	10				
Gomffor, Sam.	10	2		2	
Grosvenor, E.† ..	5				
Halberstadt & Co.	11	1	2	3	
Kupper Cracker Co.	10	6	2	8	
Lense, E. L.† ..	4				
Pofahl, J. H.	10	8	1	9	
Pofahle, Louis.	10	2	2	4	
Richter, George.	11	5	1	6	
Schmidt, N. F.† ..	5		1	1	
Scheller, H. J.	10	3	1	4	
Van Wle, M.	10				
White Bros.	10	1		1	
Winther, W.	10	3	2	5	
Total		31	12	43	
Kewaskum, Washington Co.—					
Hellmann, A.	10				
Kewaunee, Kewaunee Co.—					
Pezdera, J.	14				
Zuzanek, J.	14				
Kiel, Manitowoc Co.—					
Frenay, H.	10				
Kilbourn City, Columbia Co.—					
Moore, H. C.	10	1		1	
La Crosse, La Crosse Co.—					
Bjornstadt, J.	10				
Doerflinger & Co.	10	3	1	4	
Erikson, M.	10	2	1	3	
Funke, J. B., Co.† ..	10	29	131	160	10
Gesell, C. B.† ..	5	1	2	3	
Kratchwill, M.† ..	10	13	22	35	1
La Crosse Baking Co.	12	3	1	4	
La Crosse Cracker & Candy Co.*	10	34	32	66	6
Nelson, A. J.	10		1	1	
Park Store.	10	3	1	4	
Pfund, C. T.† ..	10	1	2	3	
Rupling Baking Co.	10	8	2	10	
Santrizos & Haderast.	8	1	1	2	
Scheuermann, I.	10				
Scheuffer, E.† ..	10	1	2	3	
Schultz, R.	12	3	1	4	
Stonebreacker, H. A.	10	1		1	
Total		103	200	308	17
Ladysmith, Rusk Co.—					
Clark, W. E.	10				
Jung, C.	8				
Lake Geneva, Walworth Co.—					
Buell & Matson.	8	2		2	
Fisher, A. L.	10	6	2	8	
Perrin & Sons.	10	3	1	4	
Wilson & Warner† ..	10	1		1	
Total		12	3	15	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Lake Mills, Jefferson Co.—					
Gesall, A.	11		1	1	
Neuerberg, A. E.†	10	1	1	2	
Total		1	2	3	
Lancaster, Grant Co.—					
Johnston, D. C.	10	1		1	
Lathrop, W. L.	10	2	1	3	
Total		3	1	4	
Littlechute, Outagamie Co.—					
Vander Putter, John	14				
Madison, Dane Co.—					
Churchill, G. R.	10				
Hellman, George, (estate)	10	11	3	14	
Kean & Taylor.	10		1	1	
Lindauer, M.	10		1	1	
Madison Candy Co.†	10	12	20	32	3
Morschauer, J.	10				
Palace of Sweets †	10	4	16	20	
Quilty, M. J.	11	2	1	3	
Spencer, G. W.	10	3	1	4	
Teckemeyer Candy Co.†	10	10	14	24	2
Waltzinger, C.†	10	2	4	6	
Weber, N. E.	11	5	1	6	
Total		49	33	111	5
Manitowoc, Manitowoc Co.—					
Adams & Monka	10	1	1	2	
Carlin, F.	10				
Cerull, August	12	3	1	4	
Chapman, D. C.	13	3	1	4	
George Bros.	12	3	1	4	
Schroter, C. W.	12	4		4	
Weinert, John	10	1	1	2	
Total		15	5	20	
Marion, Waupaca Co.—					
Mohr, August	10				
Marinette, Marinette Co.—					
Button, August †	10				
Clemens, Mrs. Jennie.	10				
Cooley, J. S.†	15		2	2	
Goslin Bros.†	4				
Linguest, A.	10	1		1	
Lites, George†	6	2		2	
Mathenson, A.	12				
Mueller, G. A.	10	3		3	
Schmidt, W. P.	12	3		3	
Sillevoid, L.	12				
Total		9	2	11	
Markesan, Green Lake Co.—					
Schneeberger, Fred	10				

BLE I--BAKERIES AND CONFECTIONERIES INSPECTED--Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Shfield, Wood Co.—					
Baker, R. J.†	10	1	1	2	
Harvey, J. H.	10		1	1	
Enkins, R. D.	10	1	1	2	
Feldel, A.	10	2		2	1
Wright, L. A.	12	3	2	5	
Total		7	5	12	1
toon, Shawano Co.—					
Illinger, H. L.	10				
oston, Juneau Co.—					
Blass, John	6				
ville, Dodge Co.—					
Achtenhaugen, C.	9				
Brann, Fred	3	1	1	2	
ford, Taylor Co.—					
Fish, T. J.	10				
Goerbing, Carl	10	2		2	
asha, Winnebago Co.—					
Heitl, George	10				
Kind & Hohelsel	10	3	2	5	
omonee, Dunn Co.—					
Anstett, J.	6	2	1	3	2
Sterndahl Bros.	15				
omonee Falls, Waukesha Co.—					
Brunner, E. H.	10				
Forster, Charles A.	12	7	1	8	
rill, Lincoln Co.—					
Baumann, O.	10	2	1	3	
Denne, L.	10	2		2	
Haase, R. H.	10	1	1	2	
Walter, G.	10				
Total		5	2	7	
on, Rock Co.—					
Anderson, J.	10				
waukee, Milwaukee Co.—					
Ackerman, J.	10	1		1	
Albion Bakery Co.	10	20	10	30	
Altman, C. & J.†	6		1	1	
Altman, M.	10				
Ambrosia Chocolate Co.†	10	4	5	9	
American Candy Co.	10	73	102	175	47
Atlas Bread Factory	10	29	5	44	
Badger Candy Co.†	10	19	32	50	5
Barthlog, G.	10	9		9	
Bauer, Fred	11				
Bauer, J.	10				
Bauer, M.	10	1		1	
Bauman, H.	10	1		1	
Becker, Henry	11	2	1	3	
Beldtsch, A.	10	1		1	
Bender, F.	10				
benz, W.	10	1		1	
berger, F. H.	10				
berndt, Henry	10	2		2	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Mt. Waukeg—Continued.					
Berchler, M.	11	1	1	2	
Boch, Charles	10				
Boeder, Julius	10				
Boerth & Porth Co.	10	8		8	
Bonine, G.	10		2	2	
Borrmann, August †	10				
Braun, E.	11	3	1	4	
Brink, G. P.	10				
Brzoskowski, L.	10				
Buchholz, W.	6				
Buetow, E.	17				
Burck, D.	12	2		3	
Buscher, Louis	12	1	1	2	
Carpenter & Skiles	10	61	7	68	
Cesar, Frank	12	1		1	
Ceszyński	10	1		1	
Chacona, James †	10	9	15	23	1
Cohn Bros.	10	1		1	
Conroy, J.*	10	5	4	9	
Craemer, K.	10	1		1	
Cream City Candy Co. †	10	4	12	16	
Curraht Co.	10				
Czaskowski, F.	12	1		1	
Daniels, C.	10				
Dessinger, A.	11	2		2	
Dielehner, August	12	1		1	
Dietrich, Frank	14				
Diez, M.	10	1	1	2	
Dinno & Sepulo	12				
Dix, A.	10	1		1	
Draeger, O.	8				
Dretske, A.	10	3	1	4	
Drischler, A.	11	2		2	
Drumlski, A.	10				
Drumlski, D.	12	1	1	2	
Dumke, Hugo	12	1	1	2	
Dwyer, Flora	10	1	4	5	
Ehling, T.	10	1		1	
Eckers, C.	11	1		1	
Engelkraut, J. H.	14				
Emmke, Emil	11	1	1	2	
Ehrler, A.	10	4	3	7	1
Eich, John	12				
Engelhardt, F.	10				
Erdrman, B.	11	1		1	
Ertl, George	10				
Escher, F.	10				
Escherbacher, A., & Son	10	2		2	
Ewert, W.	18	1		1	
Fahl, E.	10	2		2	
Fahl, Henry	12	2	1	3	
Farchmin, H. A.	10	3		3	
Fecker, H. F.	10	1	1	2	
Feller, A.	11	1		1	
Felder, J.	12	2		2	
Fernekes, J., & Son †	10	20	22	42	2
Fick, C.	10	7		7	4
Fleisher, A.	10	7	1	8	
Foelske, W.	12	1		1	
Forrer, R.	12	2		2	
Franke Bros.	10	1		1	
Fuhrman, A.	10				
Fuller Candy Co. †	10	2	6	8	
Furtmann, H.	10				

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Waukegan—Continued.					
Ganhs, Otto	11	1		1	
Gebhardt, Joseph	11	7	6	13	
George, O.	10	1		1	
Georgloff, J.	10	1		1	
Gerhard, M.	10	4		4	
Gerns, W. P.	12	1	1	2	
Gescher, B. B.	10	2		2	
Gimbel Bros.	9	2		2	
Goedtko, E.	10				
Geogel, F.	12	1		1	
Goetz, A.	10	1	1	2	
Goller, George	10				
Gorkow, W.	10	1	1	2	
Graetz, F.	12	1		1	
Gattenthaler, G.	10	3	1	4	
Graven, Louis & Co.	10	7	1	8	2
Gress, Robert	13	1		1	
Gruettner, W.	11	2		2	
Guardalabene	10	3		3	
Guelzow, H.	10	2		2	1
Guender, M.	9				
Gunath, G.	10	1		1	
Guse, G.	11	3		3	
Gutenberg, A.	15				
Gutzke, W.	10				
Hach, C.	12	5	1	6	
Hackbarth, C. A.	11	2		2	
Hackbarth, E.	10				
Hackl, A.	10				
Hagendorf, P.	10				
Hahn, W.	12	8	1	9	
Held, Fred	9	1		1	
Hennes & Inden, Misses	10				
Henrich, A.	10				
Hepfinger, S.	10	1		1	
Herz, Joseph	10	1	1	2	
Hertzberg, E.	10		1	1	
Hertzberg, R.	12	1	1	2	
Hesse, M. T.	10				
Hettwer, J.	10	2	1	3	
Hille, Joseph	10				
Hoffman, A.	10	2		2	
Hohlwek, E.†	4				
Holl, A.	20	6		6	
Hollweck, J.	12	2	1	3	
Huyler, C.	10				
Ickstadt, Julius	10	2		2	
Imanovsky, Joseph	12	1		1	
Jackel, F.	12	1		1	
Jacks, J.	12	2		2	1
Jaeger, B.	10	16	1	17	
Jaeger, I.	10	30	3	33	
Jahr, E. E.	11				
Janyski, J.	12	3		3	
John, A.	12	1		1	
John, E.	12	1		1	
Johnston, Robert N.†	10	20	100	120	
Kadlec, E.	10				
Kammerer, George	12				
Kaiser, C.	9	5	1	6	
Kaiser, J.	12	2		2	
Kaiser, Otto	12	1	1	2	
Kallmeyer, C.	10	1		1	
Kalupa, A.	10	1		1	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Milwaukee—Continued.					
Kapp, Leonard	10	1	1	2	
Kaupfer, D.	10	1		1	
Kelper, B.	12	1		1	
Kanner, A.	10½	2	1	3	
Knoll, Wm.	10				
Knowski, August	11	3		3	
Koba, J.	10	1		1	
Konz, M.	11	2		2	
Kopecky, J.	9	1		1	
Korthals, G.	13	1		1	
Kraemer, C.	17	1		1	
Kraft, E.	10				
Krasno, I.	10	2		2	
Kratzchan, E.	14				
Kremer, C.	12	4	2	6	
Kruege, August	12	5		5	
Krueger, E.	12	1		1	
Krueger, H.	11	3		3	1
Krumholz, A.	10				
Kuck, T.	17	1	1	2	
Kullman, Frank	10	4	1	5	
Kundman, Joseph	11	2	1	3	1
Kurz, H.	12	2		2	
Kurz, J.	11	3	1	4	
Lack, August	10				
Lammer, George	10	1		1	
Lammert, B.	12	1		1	
Lammert, F.	12				
Lange, C.	11	1		1	
Lange, E. M.	10				
Lange, H.	12	2		2	
Lawrence Bros. &	10	9		9	5
Leenhouts, H. A.	13		1	1	
Lehrke, F.	10	1		1	1
Lemburger, Joseph	6				
Lenandowsky, A.	10				
Linderman, J.	10				
Lindner, P.	10				
Logiotatos, Costas	15	3		3	
Litze, H.	10				
Launsberg, W.	12	2		2	
Ludtka, B.	10				
Luercke, F.	10				
Lulck, W. F.	10	1	3	4	
Lukoszewicz, A.	12	2		2	
Malich, I.	10				
Mapphews, A.	10	4	1	5	
Marin, A.	10				
Markmann, O.	10	5	1	6	1
Martini, F.	10	7	4	11	
Matt, E.	12	1		1	
Matyas, Emil	10	4	1	5	
Mauer, J.	11	1	1	2	
Mauer, L.	10	12		12	
Megge, H.	10	2		2	
Meister & Co.†	10	1	4	5	
Menzel, P.	12	2	1	3	
Meos, O.	12	1		1	
Mewes, C.	11	2		2	
Mewes, Louis	10				
Meyer, A.	10	3		3	
Meyer, F.	10	2		2	1
Meyer, W.	11	2		2	
Michalski, N.	10	1		1	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Waukeee—Continued.					
Wichl, J.	10				
Willer, O. H.†	10	1	2	3	
Willer, Robert	11	1	1	2	
Wilkawake Bakery	12	2		2	
Wilkawake Baking Co.	10	3		3	
Wilkawake Candy Co.†	10	24	13	37	2
Wilkawake Pretzel Co.	10	2		2	
Wittefeldt, R.	10	1	1	2	
Wolt, J.	10	2		2	
Wolt, M.	12	1		1	
Wosen, C., & Co.	9	19	12	30	
Wuelbauer, J.	12	1		1	
Wueller, George	12	2	1	3	
Wueller, H.	11	1		1	
Wueller, Hubert	9	2		2	
Wuschinski, F.	10				
Wagel, Paul	10				
Warloch, J.	12	2		2	
National Biscuit Co.	10	100	90	190	26
Willsen, F.	20	6	1	7	
Wilkis & Thiakos	10	3		3	
Witkowski, John	10	1		1	
Woll, Jos.	10	1		1	
Northwestern Home Bakery	10				
Oakland Baking Co.	10				
Obermeyer, K.	10	1	1	2	
Oehme, Louis	12	1	1	2	
Oestricher, John	11	1		1	
Ohelefnoust, J.	10	2		2	
Olson, Mrs. F. P.	10	1	4	5	
Oswald, R.	10				
Oswald, W.	11				
Ott, M.	12	2		2	
Panny, K.†	10	1	2	3	
Perski, R.	11	1		1	
Peters, F.	12	1		1	
Phell, Joseph	10				
Pflugart, The, Co.†	10	33	37	69	8
Penzler, Joseph	10	2	1	3	1
Pixley, C. A.	11	2	1	3	
Plantz, E.	11	2		2	
Plantz, W. A.	10				
Podoll, G. O.	9	1	2	3	
Pohlman, J.	8	3	1	4	
Pohl, August	10	1		1	
Pshennoy, A.	12	2		2	
Potrykus, T. M.	10				
Pruess, W.	12				
Pulrow, E.	12				
Puhl, R.	19				
Puls, John	11	1		1	
Pusch, John	12	1		1	
Radtke, W.	11	2	1	3	
Ranson, S. J.†	6		2	2	
Recklinghauser, L.	10				
Redel, J. L.	10		1	1	
Redeher, W.	10	2	1	3	
Reichelt, Robert	10	1		1	
Reif, J.	11	2		2	
Reinhardt, August	10				
Reinhardt, C.	11	1		1	
Reitberger, E.	12	1		1	
Reitberger, E.	10	3		3	1
Reinhild, Richard	12				

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			Under 16 years of age.
		Male.	Female.	Total.	
Milwaukee—Continued.					
Rogowsky, A.	12	2		2	
Rosecky, A.	10	2		2	
Rosecky, J.	11	2	1	3	
Rosenbaum, W.	10	14	2	16	
Rosencranz, W.	10	1		1	
Rossow, F.	12	2		2	
Rotter, Ida	12	1		1	
Rudolph, L.	11	1		1	
Rueckert, C. L.	10	1		1	
Ruff, F.	11	1		1	
Rupplin, M.	12	1	1	2	
Rybacki, J.	10	1		1	
Salan, J.	4				
Salsman, Mrs. F. W.	11	2		2	
Sammer, George	10	1		1	
Sandek, A.	11	2	2	4	
Sanders, R.	10	1		1	
Sandes, R.	11	1	2	3	
Sauer, James	10				
Sbraglia, A.	4				
Schaffer, K.	14				
Scheldecker, E.	9				
Scheldecker, L.	10				
Schlipper, J. F.	12	7		7	
Schmidt, A.	11	4		4	
Schmidt, B.	12	1	1	2	
Schmidt, F.	10	1	1	2	
Schmidt, Joseph	10				
Schmidt, J. S.	11	1		1	
Schneider, B.	10	2		2	
Schneider, F.	10	3		3	
Schneider, M.	10	1		1	
Schrank, T.	12	1		1	
Schuermann, M.	10	1	1	2	
Schuester, W.	10				
Schultz, F.	10	2	1	3	
Schultz, G. A.	12				
Schurrer, O.	8	1		1	
Schwaer, Emil	12	1		1	
Schwind, Fred	10				
Sherwood, Mrs.	10				
Sickling, G.	10	4	1	5	
Siefert, August	10				
Sieffried, A.	10	2	1	3	
Singer, F. B.	11	4	1	5	
Stevling, A.	10		1	1	
Skiles Bakery Co.	10	30	3	33	
Smith & Co.	10				
Sommers, F.	11	3		3	
Soula, J. L.	10				
Spilos & Antonopoulos	10	4		4	
Standard Candy Co.	11	11	22	33	
Sternkopf, H.	11	1	1	2	
Szweda, Peter	11	2		2	
Talski, Joseph	12	1		1	
Talsky, A.	12	1		1	
Talsky, R.	10	1		1	
Tansky, F.	10	2		2	
Tavoulares, P.	10	3		3	
Thalman, F.	9	2		2	
Thanner, O.	10	1	1	2	
Thomsen Bros.	13	1		1	
Thuerling, George	10	4		4	
Tillema, P. & Sont	10	3	7	10	

LABOR AND INDUSTRIAL STATISTICS.

JERIES AND CONFECTIONERIES INSPECTED - Continued.

and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Continued.					
& Maniac I.....	11				
E.....	10½	6	1	6	
F.....	10	1		1	
M.....	11	1		1	
T.....	10				
acob.....	11	1		1	
y, J.....	12	2		2	
y, W.....	10	1		1	
E.....	10	2		2	
E.....	10				
V.....	10	1		1	
Z, B.....	12				
A.....	10	1		1	
r, E.....	13	1		1	
nger, C.....	11	2		2	
A.....	10	12	20	32	
rt, G.....	13	1	1	2	
art, Fred.....	10	1	1	2	
Leon.....	10	1		1	
r, Julius.....	12	1		1	
n, A.....	13		1	1	
elberg, C.....	15				
elberg, F.....	12				
lv, J.....	10				
elms, Geo.....	10	2		2	
ams, John.....	11	5	1	6	
s, August.....	10				
erhalder, H.....	10	1		1	
th, G.....	11	1		1	
re, Fred.....	11	2	1	3	
te, L.....	12	1		1	1
trow, W. A.....	11	1		1	
zler, Geo. Co.†.....	10	164	160	324	91
prich, G.....	10		1	1	
Total.....		1,354	979	2,333	91
al Point, Iowa Co. -					
orning, E.....	10	1	1	2	
equa, Vilas Co. -					
ucha, George.....	10	1		1	
roe, Green Co. -					
urat, N.....	10	2	2	4	
helfer, George.....	10	3	2	5	
Wagner, J.....	13	2	1	3	
Ziener, A. W.....	11	2	2	4	
Total.....		9	7	16	
nah, Winnebago Co. -					
Dix, Albert.....	10		1	1	
Estvad, E. V. C.....	10	1		1	
Ohde, Karl.....	10	1	1	2	
Reynolds, G. J.†.....	10	1	1	2	
Steele's Candy Kitchen†.....	6		2	2	
Total.....		3	5	8	

TABLE 1.—BAKERIES AND CONFECTIONERIES INSPECTED Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Neillsville, Clark Co.—					
Johnson, W. L.†	10				
Kubat, A. R.	10		1	1	
Lange, Max L.	18		1	1	
Schless, Conrad	9				
Total			2	2	
New Glarus, Green Co.—					
Mueller, Ernst	12	1		1	
Schlusser, J.	10	2		2	
Total		3		3	
New Lisbon, Juneau Co.—					
Shane, J. W.	10		1	1	
Waterman, H.	10		1	1	
Total			2	2	
New London, Waupaca Co.—					
Holtzboon, H.	10				
Peotter, Ernest	10				
New Richmond, St. Croix Co.—					
Nelson, G. E.	8		2	2	
North Milwaukee, Milwaukee Co.—					
Jacob, J.	10	2		2	
Fisher, Joe	11	1		1	
Total		3		3	
Oconomowoc, Waukesha Co.—					
Hanson, P.	10	2		2	
Heyn, C. E.	11	1		1	
Raasch, H. F.	12	1		1	
Total		4		4	
Oconto, Oconto Co.—					
Aubry, N.	10				
Carr, G. H.†	10				
Demas, John†	10				
Foulds, F.†	6	1	1	2	
Maloy, Thos.	16		1	1	
Total		1	2	3	
Oshkosh, Winnebago Co.—					
Bloechl, M. F.	12	1	1	2	
Cole, D. S.	10		1	1	
Crowell, R. I.	11	4	2	6	1
Damuth, H. D.	12		5	5	
Fischer, A.	12	3		3	
Gust, E.	10		1	1	
Heiss, Mrs. F.	11	3	1	4	
Kamm, H.	10				
Kolb, P. H.†	10	3	6	9	
Kratz, F. W.†	10	2	3	5	
Lans, Joseph†	10	2	3	5	1
Lindner, H.	11	3		3	
Luebke, C. F.	24	9	1	10	

3 AND INDUSTRIAL STATISTICS.

S AND CONFECTIONERIES INSPECTED—Continued.

of firm.	Hours of labor.	Employees.			Under 16 years of age.
		Male.	Female.	Total.	
.....	12	2	2	4	.....
.....	10	.....	1	1	.....
.....	10	.....	1	1	.....
.....	12	1	1	2	1
.....	10	2	3	5	.....
.....	.....	33	31	66	3
.....	8	1	.....	1	.....
.....	10	.....	.....	.....	.....
.....	10	.....	.....	.....	.....
.....	10	4	2	6	.....
.....	10	2	.....	2	.....
.....	12	2	.....	2	.....
.....	10	2	.....	2	.....
.....	.....	10	2	12	.....
Co.—	10	1	.....	1	.....
.....	10	2	1	3	.....
.....	10	1	1	2	.....
.....	.....	4	2	6	.....
—	11	3	1	4	.....
.....	10	.....	2	2	.....
.....	10	1	2	3	.....
.....	.....	4	5	9	.....
akee Co.—	13	1	1	2	.....
.....	12	3	.....	3	.....
.....	.....	4	1	5	.....
wford Co.—	9	1	.....	1	.....
.....	10	3	.....	3	.....
.....	10	1	1	2	.....
.....	10	2	2	4	.....
.....	10	2	.....	2	.....
.....	11	12	4	16	.....
.....	11	2	.....	2	.....
.....	10	1	2	3	.....
ison	10	3	.....	3	.....
.....	10	8	2	10	.....
.....	10	8	4	12	1
.....	4	.....	.....	.....	.....
.....	.....	42	15	57	1
.....	10	.....	.....	.....	.....

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Reedsburg, Sauk Co.— Kerringen, C. P.	10	3	2	6	
Rhineland, Onelda Co.— Kirke, C. D. & Co.	10	1	1	2	
Zinn, R.	10	1		1	
Total		2	1	3	
Rice Lake, Barron Co.— Finsterwalder, M.	10	1		1	
Gustavson, G. I.	10	1	2	3	
Total		2	2	4	
Richland Center, Richland Co.— Starr, J.	10	2	5	7	
Wertz, A. C.	10		3	3	
Total		2	3	10	
Ripon, Fond du Lac Co.— Jones, F. E.†	10		1	1	
Ruckert, N.	11	3	1	4	
Total		3	2	5	
River Falls, Pierce Co.— Richardson, M. J. & Co.	10				
Woehle, J. W.	10½	3		3	
Yocum & Boles	8	2		2	
Total		5		5	
Schleisingsville, Washington Co.— Kachlemeler, F.	9				
Seymour, Outagamie Co.— Becker, Aloys	10	1		1	
Shawano, Shawano Co.— Foulds, F. K.†	10		1	1	
Ludolph, G. W.	10	2		2	
Miller, J. M.	10				
Rohloff, R. P.	12	1	1	2	
Sprague, E. G.	10	1		1	
Total		4	2	6	
Sheboygan, Sheboygan Co.— Baumann, B.	10	2		2	
Dressler, A. R.†	10		1	1	
Fahres, John	10	4	1	5	
Guck Bakery	10	1		1	
Hirsch, G. A.	10	3		3	
Kalitt, A. H.†	10		2	2	
Kell, E.	10				
Mohr, E.	11	10	5	15	
Pfister, Thos.	10				
Skaft Bros.†	10				
Spangenberg, F.	12	5	1	6	
Wagner, G. A. (estate)	10	1	1	2	
Wicker, Louis	10	2		2	
Winnicur, A.	10				
Total		28	11	39	

TABLE I.—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			
		Male.	Female.	Total.	Under 16 years of age.
Sheboygan Falls, Sheboygan Co.— Draeger, F.	10				
Shell Lake, Washburn Co.— Gaerth, George	10				
Habelitz, Herman	10				
South Milwaukee, Milwaukee Co.— Ceszinske, Joseph	10	1		1	
Vogel, L.	11	3	1	4	
Total		4	1	5	
Sparta, Monroe Co.— Buchaman, J. M.†	4		4	4	
Doxrud, O. H.	13				
Herman, W. N.	10				
Kuhn, C.	10	1	1	2	
Total		1	5	6	
Spooner, Washburn Co.— Nehlin, Charles	10				
Stiburek, C. W.	8				
Stanley, Chippewa Co.— Urquhart, R. R.	9	1	1	2	
Stevens Point, Portage Co.— Bennett, D.	10	2	1	3	
Denka, August	12	2		2	
Hetzel & George, O. B.†	10	1	1	2	
Juller, E. A.	10	2	1	3	
Mocogari Bros.	10	1		1	
Stockley, F.	12	2		2	
Total		10	3	13	
Stoughton, Dane Co.— Jacobson Bros.	10	2	1	3	
Oleson, Mrs. Anna	10	2		2	
Romnes, Hans	13½	1	2	3	
Total		5	3	8	
Sturgeon Bay, Door Co.— Fengler, F.	8				
Klinkenberg, E.	10				
Schmid, J.	11	2	1	3	
Sun Prairie, Dane Co.— Burrington & Norton	10	1		1	
Superior, Douglas Co. - Bergeson Bros.	10	5	1	6	
Cronin, Mrs. H.	10		1	1	
Crowell, C. W. & Co.	10	3	2	5	
Hinkel, Frank	12	5	3	8	
Iowa Bakery	10	3	1	4	
Jensen & Larsen	10	3	2	5	
Johnson, I.	10				
Leamon, George	11	6	2	8	
Moores, Albert	10	1		1	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			Under 16 years of age.
		Male.	Female.	Total.	
Superior—Continued.					
Nelson, N.	12	4		4	
Ord, G. H. & Co.	10	2		2	
Strauch, J.	10	2	1	3	
Ward, M.	10	1		1	
Wassuna, George	11	3	2	5	
Total		39	15	53	
Theresa, Dodge Co.—					
Frings, Wm.	10	1		1	
Tomah, Monroe Co.—					
Benz, Fred	10	1		1	
McMullen, W. J.	10	1		1	
Total		2		2	
Tomahawk, Lincoln Co.—					
Mennler, J. W.	10	2		2	
Town of Lake, Milwaukee Co.—					
Pleva, Joseph	10	1		1	
Two Rivers, Manitowoc Co.—					
Gehrke, August	10				
Hartung, H.	11	1	1	2	
Reubel, J.	10				
Total		1	1	2	
Viroqua, Vernon Co.—					
Lind, W. D.	10		2	2	
Nelson, C. A.	10				
Total			2	2	
Washburn, Bayfield Co.—					
Burggren, H.	12	1		1	
Dickey, Mrs. C.	8				
Total		1		1	
Waterloo, Jefferson Co. -					
Jana, John	10				
Watertown, Jefferson Co.—					
Heyn, C. M.	10	2		2	
Koser, H. J.	10	4	1	5	
Kramer, W.	11	1		1	
Krueger's Bakery	11	3	2	5	
Leopold, Robert	10	4	1	5	
Radtke & Sont	10	2	3	5	
Wagner, L. W.	10	1	3	4	
Total		17	10	27	
Waukesha, Waukesha Co. -					
Arnold, W.	12	3		3	
Bostwick, E. F.	10	1	1	2	
Ewing, John	10		2	2	
Kurzbaals, J.	10	2		2	
Rold, W.	10	1		1	
Truax, L. E.	8		1	1	
Total		7	4	11	

TABLE I—BAKERIES AND CONFECTIONERIES INSPECTED—Continued.

Location and name of firm.	Hours of labor.	Employees.			Under 16 years of age.
		Male.	Female.	Total.	
Waupaca, Waupaca Co.—					
Dalton, A. O.	16	2	.....	2	.....
Hanson, R. R.	10	2	2	4	.....
Total		4	2*	6	.....
Waupun, Fond du Lac Co.—					
Enggard, P.	10	1	.....	1	.....
Griebsbaum, Peter and John	12	1	1	2	.....
Total		2	1	3	.....
Wausau, Marathon Co.—					
Hess, George H.	10	2	2	4	.....
Nagreen, C. R.†	10	1	1	2	.....
Osswald, H.	12	5	2	7	.....
Osswald, J. F.	11	2	2	4	.....
Stelber & Price	10	.....	.....	.....	.....
Sterk, J.†	10	1	4	5	.....
The Peth Templeton Co.†	10	10	3	13	1
Young, J. P.†	10	.....	3	3	.....
Total		25	22	47	1
Wauwatosa, Milwaukee Co.—					
Baler, W.	11	2	.....	2	.....
Brek, C.	10	1	1	2	.....
Milwaukee County Farm and Alms House	9	3	.....	3	.....
Total		6	1	7	.....
West Allis, Milwaukee Co.—					
Schmid, George	10	1	.....	1	.....
West Bend, Washington Co.—					
Bauer, H. F.	10	1	1	2	.....
Schlegel, G.	11	2	.....	2	.....
Total		3	1	4	.....
West Salem, La Crosse Co.—					
Gilbertson, G.	9	2	2	4	.....
Weyauwega, Waupaca Co.—					
Edwards, E. O.	6	1	1	2	.....
Livermore, D. C.	10	.....	1	1	.....
Total		1	2	3	.....
Whitewater, Walworth Co.—					
Brown, Frank	10	1	.....	1	.....
Harris, W. L.	9	2	1	3	.....
Sachs, Mrs. A.	10	1	.....	1	.....
Total		4	1	5	.....
Williams Bay, Walworth Co.—					
Lackey, W. J.	10	1	1	2	.....
Total		2,296	1,637	3,933	282

EXPLANATORY.

* Bakery and Confectionery.

† Confectionery.

‡ Bakery and Grocery.

§ Macaroni Factory.

TABLE II—SUMMARY, BY CITIES AND VILLAGES, OF ESTABLISHMENTS INSPECTED, WITH EMPLOYEES CLASSIFIED AS TO SEX AND AGE.

Place.	No. of establishments.	Employees.			
		Male.	Female.	Total.	Children under 16 years.
Algoma	1				
Antigo	4	8	6	14	
Appleton	13	12	7	19	
Ashland	5	17	1	18	
Abbotsford	1				
Alma	1				
Baraboo	4	2	1	3	
Barron	2	1	3	4	
Bayfield	2				
Beloit	5	30	7	37	
Berlin	4	4	3	7	
Birnamwood	1				
Black River Falls	2	2		2	
Bloomer	1	1		1	
Beaver Dam	4	5	3	8	
Boscobel	1	1	1	2	
Brillion	1				
Brodhead	3	6		6	
Burlington	3	1	1	2	
Cedarburg	3	4	1	5	
Chetek	2	1		1	
Chilton	1	1		2	
Chippewa Falls	5	5	10	15	
Clintonville	2		1	1	
Columbus	1	2	1	3	
Crandon	1				
Cuba	2	3		3	1
Cudahy	1	2		2	
Darlington	2	2	1	3	
Delavan	2	5	3	8	
De Pere	7	3	2	5	
Dodgeville	1				
Eagle River	2				
Emu Claire	6	29	24	53	1
Edgerton	1				
Elkhorn	1	1		1	
Ellsworth	1	1	2	3	
Evansville	4		1	1	
Fennimore	1				
Florence	1				
Fond du Lac	13	54	73	127	7
Fort Atkinson	2	3	3	6	
Grand Rapids	3	1		1	
Green Bay	15	100	110	210	35
Hartford	2	3	1	4	
Hartland	1	1		1	
Hayward	1		1	1	
Horicon	1		1	1	
Hudson	6	3		3	
Hurley	2	2		2	
Iron River	1				
Janesville	10	45	2	47	
Jefferson	3	2		2	
Kaukauna	3	3	3	6	
Kenosha	16	31	12	43	
Kewaskum	1				
Kewaunee	2				
Kiel	1	1			
Kilbourn City	1	1		1	
La Crosse	17	103	200	303	17
Ladysmith	2				
Lake Geneva	4	12	3	15	
Lake Mills	2	1	2	3	
Lancaster	2	3	1	4	

TABLE II—SUMMARY OF ESTABLISHMENTS INSPECTED—(Continued.)

Place.	No. of establishments.	Employees.			Children under 16 years.
		Male.	Female.	Total.	
Littlechute	1				
Madison	13	49	63	111	5
Manitowoc	7	15	5	20	
Marinette	10	9	2	11	
Marion	1				
Markesan	1				
Marshfield	5	7	5	13	1
Mattoon	1				
Mauston	1				
Mayville	2	1	1	2	
Medford	2	2		2	
Menasha	2	3	2	5	
Menomonie	2	2	1	3	2
Menomonee Falls	2	7	1	8	
Merrill	4	5	2	7	
Milton	1				
Milwaukee	376	1,361	832	2,243	206
Mineral Point	1	1	1	2	
Minocqua	1	1		1	
Monroe	4	9	7	16	
Neeenah	4	3	3	6	
Neillsville	4		2	2	
New Lisbon	2		2	2	
New London	2				
New Richmond	1		2	2	
New Glarus	2	3		3	
Oconomowoc	3	4		4	
Oconto	5	1	2	3	
Oshkosh	13	85	31	66	2
Parkfalls	1	1		1	
Phillips	2				
Platteville	4	9	3	12	
Plymouth	3	4	2	6	
Portage	3	4	5	9	
Port Washington	2	4	1	5	
Prairie du Chien	1	1		1	
racine	11	42	15	57	1
Randolph	1				
Reedsburg	1	3	2	5	
Rhinelander	2	2	1	3	
Rice Lake	2	2	2	4	
Richland Center	2	2	8	10	
Ripon	2	3	2	5	
River Falls	3	5		5	
Schleislingerville	1				
Seymour	1	1		1	
Shawano	5	4	2	6	
Sheboygan	14	32	13	45	
Sheboygan Falls	1				
Shell Lake	2				
Sparta	4	1	5	6	
Spoooner	2				
Stanley	1	1	1	2	
Stevens Point	6	10	3	13	
Stoughton	3	5	3	8	
Surgeon Bay	3	2	1	3	
Sun Prairie	1	1		1	
Superior	14	38	15	53	
Theresa	1	1		1	
Tomah	2	2		2	
Tomahawk	1	2		2	
Two Rivers	3	1	1	2	
Troqua	2	2		2	
Watertown	1				
Watertown	7	17	10	27	

TABLE II—SUMMARY OF ESTABLISHMENTS INSPECTED—Continued.

Place.	No. of establishments.	Employees.			
		Male.	Female.	Total.	Children under 16 years.
Washburn	2	1	.....	1	.....
Waukesha	6	7	4	11	.....
Waupaca	2	4	2	6	.....
Waupun	2	2	1	3	.....
Wausau	9	25	22	47	1
Wauwatosa	2	3	1	4	.....
West Allis	1	1	.....	1	.....
West Bend	2	3	.....	4	.....
West Salem	1	2	2	4	.....
Weyauwega	2	1	2	3	.....
Whitewater	3	4	1	5	.....
Williams Bay	1	1	1	2	.....
Total	839	2,296	1,637	3,933	282

The foregoing tables show totals of 839 establishments inspected and 3,933 persons employed. Of the latter number 282 are children under 16 years of age. These totals are further analyzed in Tables III-XII, following.

TABLE III—ESTABLISHMENTS CLASSIFIED AS TO WHETHER LOCATED "IN MILWAUKEE" OR "OUTSIDE MILWAUKEE."

Classification.	Establishments.	
	Number	Per cent.
In Milwaukee	376	44.8
Outside Milwaukee	463	55.2
Total Inspected	839	100.0

It is apparent from the above table that the number of bakeries inspected outside of Milwaukee is but a fourth greater than the number inspected in Milwaukee. The proportion is practically the same as that found in the years 1903 and 1904.

LABOR AND INDUSTRIAL STATISTICS.

TABLE IV—CLASSIFICATION OF EMPLOYEES ACCORDING TO SEX AND AGE.

Employees.	Number.	Per cent.
Persons employed	2,296	58.4
Male persons employed	1,637	41.6
All persons employed	3,933	100.0
Persons over 16 years of age	3,651	92.8
Persons under 16 years	282	7.2
All employees	3,933	100.0

TABLE V—RESPECTIVE PROPORTION OF PERSONS EMPLOYED IN MILWAUKEE AND OUTSIDE THAT CITY, WHEN CLASSIFIED AS TO SEX.

Employees.	Number.			Per cent.		
	In Mil- waukee.	Outside Mil- waukee.	Total.	In Mil- waukee.	Outside Mil- waukee.	Total.
Persons employed....	1,301	935	2,296	59.3	40.7	100.0
Male persons employed..	882	755	1,637	53.9	46.1	100.0
All persons employed	2,243	1,690	3,933	57.0	43.0	100.0

From Tables IV and V it is seen that about 3-5 of all bakery employees are males, and 2-5 females. Over 9-10 of all employees are over 16 years of age, about one in every 14 persons having a child under 16 years. Of all employees, 57 per cent are working in Milwaukee and 43 per cent in other parts of the State. About 3-5 of all male employees are in Milwaukee, while a slightly smaller proportion of all female employees are working in that city.

TABLE VI—MALE EMPLOYEES CLASSIFIED ACCORDING TO NUMBER OF HOURS' LABOR PER DAY.

Classification,	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Persons employed—						
Seven hours or less.....			21	2.2	21	0.9
Eight hours	4	0.3	18	1.9	22	1.0
Nine hours	36	2.6	5	0.5	41	1.8
Ten hours	1,987	70.8	311	65.6	1,698	73.9
Eleven hours	104	7.7	155	16.5	259	11.3
Twelve hours or more....	170	9.6	125	13.3	295	11.1
Total	1,361	100.0	835	100.0	2,196	100.0

TABLE VII—FEMALE EMPLOYEES CLASSIFIED ACCORDING TO NUMBER OF HOURS' LABOR PER DAY.

Classification,	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Persons employed—						
Seven hours or less.....	3	0.3	21	2.7	24	1.5
Eight hours	1	0.1	9	1.2	10	0.6
Nine hours	17	1.9	2	0.3	19	1.2
Ten hours	816	98.5	646	85.5	1,462	89.2
Eleven hours	25	2.9	41	5.5	66	4.1
Twelve hours or more....	20	2.3	36	4.8	56	3.4
Total	893	100.0	755	100.0	1,637	100.0

TABLE VIII—TOTAL NUMBER OF EMPLOYEES CLASSIFIED ACCORDING TO NUMBER OF HOURS' LABOR PER DAY.

Classification,	In Milwaukee.		Outside Milwaukee.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Persons employed—						
Seven hours or less.....	3	0.1	43	2.5	45	1.1
Eight hours	5	0.2	27	1.6	32	0.8
Nine hours	53	2.4	7	0.4	60	1.5
Ten hours	1,903	84.9	1,257	74.4	3,160	80.4
Eleven hours	129	5.8	196	11.6	325	8.3
Twelve hours or more ...	150	6.6	161	9.5	311	7.9
Total	2,243	100.0	1,699	100.0	3,933	100.0

TABLE IX--CHILDREN UNDER 16 YEARS OF AGE CLASSIFIED AS TO NUMBER OF HOURS' LABOR PER DAY.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number	Per cent.
Children employed—						
Seven hours or less.....			1	1.3	1	0.4
Nine hours	2	1.0			2	0.7
Ten hours	201	97.5	74	97.4	275	97.5
Eleven hours	2	1.0	1	1.3	3	1.0
Twelve hours or more	1	0.5			1	0.4
Total	206	100.0	75	100.0	282	100.0

TABLE X--BAKERY AND CONFECTIONERY ESTABLISHMENTS CLASSIFIED ACCORDING TO NUMBER OF HOURS' LABOR REQUIRED OF EMPLOYEES.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Establishments requiring—						
Seven hours or less.....	7	1.9	33	7.1	40	4.8
Eight hours	3	.8	21	4.5	24	2.9
Nine hours	11	2.9	6	1.3	17	2.0
Ten hours	197	52.4	267	57.6	464	55.3
Eleven hours	56	14.9	44	9.5	100	11.9
Twelve hours or more.....	91	24.2	49	10.7	140	16.7
Irregular hours	11	2.9	43	9.3	54	6.4
Total	376	100.0	463	100.0	839	100.0

Tables VI-X show the number of hours' labor required daily of employees in the establishments inspected. A larger proportion of establishments in Milwaukee than outside that city require either eleven or twelve hours' work per day. In spite of this fact, however, a smaller proportion of employees work over ten hours daily in Milwaukee than elsewhere in the state. The apparent contradiction is to be explained by the fact that it is in general only the smaller firms in Milwaukee, that require more than ten hours' work of their employees. About 3-4 of all male employees in the state and nearly 9-10 of all females work ten hours per day. Fewer women than men,

both in Milwaukee and outside that city, work over ten hours daily. Practically all child employees under 16 years of age work ten hours. In those establishments which required more than ten hours' work of the children employed, orders were issued by the inspector to reduce the time required to ten hours daily, in conformity with the law.

TABLE XI—EMPLOYEES CLASSIFIED AS TO TIME AND KIND OF WAGE PAYMENTS.

Classification.	No.	Per cent.
Employees paid—		
Weekly, cash	3,616	92.0
Semi-monthly, cash	11	0.3
Monthly, cash	5	0.1
Weekly, by check	277	7.0
Monthly, by check	20	0.5
Employees not reported upon	4	0.1
Total	3,933	100.0

TABLE XII—ESTABLISHMENTS CLASSIFIED AS TO TIME AND KIND OF WAGE PAYMENTS.

Classification.	No.	Per cent.
Establishments paying—		
Weekly, cash	616	73.5
Semi-monthly, cash	2	0.2
Monthly, cash	6	0.7
Weekly, by check	41	4.9
Monthly, by check	6	0.7
Establishments with no employees	166	19.8
Establishments not reporting	2	0.2
Total	839	100.0

From Tables XI and XII it is evident that 99 per cent of all bakery employees are paid weekly, and that 92 per cent of all are paid in cash. Of all establishments, about 80 per cent employ wage-earners. Of these, all but about 1-8 pay their employees cash weekly.

INDUSTRIAL STATISTICS.

CLASSIFIED BY BAKERIES AND CONFECTIONERIES.

Category	Number.	Per cent.
.....	851	41.9
.....	6	0.7
DOORS	2	0.2
.....	1	0.1
.....	1	0.1
.....	6	0.7
.....	468	55.8
.....	4	0.5
.....	839	100.0

BASEMENTS, ETC., OCCUPIED.

	Number.	Per cent.
.....	367	30.2
.....	932	68.5
.....	13	1.1
.....	3	0.2
.....	1,215	100.0

CLASSIFIED ACCORDING TO NUMBER OF WORK-ROOMS.

Milwaukee.	Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.
99.1	433	98.5	743	91.5
7.1	19	4.9	45	5.5
2.3	7	1.5	10	1.9
0.3	1	0.2	2	0.2
.....	1	0.7	3	0.4
0.3	1	0.2	2	0.2
0.3	.....	.....	1	0.1
0.3	.....	.....	1	0.1
0.3	.....	.....	1	0.1
100.0	493	100.0	839	100.0

XIII-XV that the majority of the on the first floor of the buildings half as many are situated in base-

ments, while a very few are on the second and third floors. Over 90 per cent of all establishments have but one work-room each, the proportion of those having more than one being slightly greater in Milwaukee than outside that city.

TABLE XVI—NUMBER OF BUILDINGS, CLASSIFIED AS TO KIND AND HEIGHT.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Percent.	Number.	Percent.	Number.	Percent.
Frame buildings--						
One story	46	15.6	46	20.3	92	17.7
Two stories	249	84.4	181	79.7	429	83.3
Total	294	100.0	227	100.0	521	100.0
Brick buildings (including 6 of stone)--						
One story	3	3.2	13	5.3	16	4.7
Two stories	76	80.0	231	89.4	297	86.8
Three stories	11	11.5	12	4.9	23	6.7
Four stories	4	4.2	1	.4	5	1.5
Five stories	1	1.1	.....	.....	1	.3
Total	95	100.0	247	100.0	342	100.0
All buildings--						
One story	49	12.6	59	12.5	109	12.5
Two stories	334	83.3	402	84.8	726	84.1
Three stories	11	2.8	12	2.5	23	2.7
Four stories	4	1.0	1	.3	5	.6
Five stories	1	.3	.....	.....	1	.1
Total	389	100.0	474	100.0	863	100.0
Two stories or less	373	95.9	461	97.3	834	96.6
Three stories or more ..	16	4.1	13	2.7	29	3.4
Total	389	100.0	474	100.0	863	100.0
Relative proportion of buildings--						
Frame	294	75.6	227	47.9	521	60.4
Brick or stone	95	24.4	247	52.1	342	39.6
Total	389	100.0	474	100.0	863	100.0

From Table XVI it may be seen that, of those inspected, none of the frame buildings used as a bakery is over two stories in height. A few brick buildings have three, four or five stories. Of all buildings, about 5-6 are of two stories, while over 96 per cent are of two stories or less. It should be recalled in this connection, however, that, according to Table XIII, the basement is used in over 40 per cent of the buildings occupied.

Three-fourths of the bakeries inspected in Milwaukee occupy frame buildings, while outside of that city slightly over half the buildings are of brick. In the state as a whole, three-fifths are frame buildings.

TABLE XVII—BUILDINGS THREE OR MORE STORIES HIGH CLASSIFIED AS TO FIRE-ESCAPES AND OUTSIDE STAIRWAYS.

Buildings.	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number	Per cent.	Number.	Per cent
Having fire-escapes only ..	2	56.3	8	61.5	17	55.8
Having outside stairways only ..	4	25.0	1	7.7	5	17.2
Having both ..	1	6.2	.....	.....	1	3.5
Having neither ..	2	12.5	4	30.3	6	20.7
Total ..	16	100.0	13	100.0	29	100.0

TABLE XVIII—NUMBER OF FIRE-ESCAPES, OUTSIDE AND INSIDE STAIRWAYS.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Fire-escapes ..	29	8.3	12	3.7	41	1.8
Outside stairways ..	335	37.8	335	41.2	670	39.5
Inside stairways ..	521	59.9	468	56.1	987	58.7
Total ..	885	100.0	813	100.0	1,699	100.0

The factory laws provide that every factory building three or more stories high in which twenty-five or more persons are employed must be provided with outside fire-proof ladders or stairways. As is seen from Table XVII, all but six of the bakeries three or more stories high are so provided. In each of these six establishments less than twenty-five persons are employed.

In Table XVIII, the large excess of the number of stairways over the number of fire-escapes is due to the fact that less than

one per cent of all work-rooms—as shown in Table XIV—are above the second floor.

TABLE XIX—NUMBER OF BUILDINGS HAVING ELEVATORS, AND NUMBER OF ELEVATORS IN BAKERIES AND CONFECTIONERIES.

Classification.	Buildings.		Elevators.	
	No.	Per cent.	No.	Per cent.
In Milwaukee	20	40.8	25	45.5
Outside Milwaukee	29	59.2	30	54.5
Total	49	100.0	55	100.0

TABLE XX—KIND OF DOORS USED ON ELEVATORS.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	No.	Per ct.	No.	Per ct.	No.	Per ct.
Automatic doors	7	28.0	4	13.3	11	20.0
Swinging doors	1	4.0	3	10.0	4	7.3
Sliding doors	8	32.0	19	33.3	19	32.7
Not reported	9	36.0	13	43.4	22	40.0
Total	25	100.0	39	100.0	55	100.0

The number of buildings having elevators is very small, as would be expected from the fact that very few of the buildings occupied by bakeries are of more than two stories in height. A slightly larger number of sliding doors than of other kinds was found on the elevators inspected.

TABLE XXI—BAKERIES AND CONFECTIONERIES CLASSIFIED ACCORDING TO SANITARY CONDITION OF ROOMS OCCUPIED.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
In good condition	299	76.9	391	84.5	690	81.0
In bad condition	84	23.3	70	15.1	154	18.4
Condition not specified	3	0.8	2	0.4	5	0.6
Total	376	100.0	463	100.0	839	100.0

Of all bakeries inspected, 18% or nearly one-fifth were found to be in an insanitary condition. The percentage was somewhat larger in Milwaukee than outside that city. Of the establishments reported as in a generally good condition, a large number were nevertheless found to require certain changes in the direction of better sanitation, as will be noted in Table XXIX, containing the orders issued by the inspector.

TABLE XXII—BAKERIES AND CONFECTIONERIES CLASSIFIED ACCORDING TO FREQUENCY OF PAINTING OR WHITEWASHING INTERIOR.

Classification.	In Milwaukee.		Outside Milwaukee.		Total.	
	No.	Percent	No.	Percent.	No.	Percent.
Every three months*	2	0.5	1	.2	3	0.4
Every four months	7	1.9	2	0.4	9	1.1
Every six months	235	63.0	303	65.5	538	64.1
Once every year	1	10.3	71	15.3	109	13.0
Once every two years	1	.3	1	0.2	2	0.2
Never	7	1.9	13	3.9	25	2.9
Not specified	86	22.3	67	14.5	153	18.3
Total	319	100.0	463	100.0	839	100.0

* One establishment in Milwaukee whitewashes every two months.

It is apparent from Table XXII that over 65%, or nearly two-thirds, of all bakeries inspected comply with the law requiring walls to be whitewashed at least as often as once in six months. A substantial improvement is to be noted in this particular over the conditions existing two years ago when less than 38% of the establishments inspected were found to be complying with this law.

TABLE XXIII—ESTABLISHMENTS CLASSIFIED ACCORDING TO SANITARY CONDITION OF UTENSILS.

Establishments having utensils—	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Percent.	Number.	Percent.	Number.	Percent.
In good condition	333	88.6	427	92.3	760	90.6
In bad condition	26	6.9	26	5.6	52	6.2
Conditions not specified ..	17	4.5	10	2.2	37	3.3
Total	376	100.0	463	100.0	839	100.0

It is evident from Table XXIII that over nine-tenths of all establishments are careful to keep their utensils in a sanitary condition. Of the establishments which violated the law in this respect, an equal number were located in Milwaukee and outside that city.

TABLE XXIV—BAKERIES AND CONFECTIONERIES CLASSIFIED AS TO KIND OF FLOORS.

Establishments having.	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Wood floors	323	85.9	402	86.8	725	86.4
Cement floors	34	9.0	29	6.3	63	7.5
Wood and cement floors ...	16	4.0	6	1.3	21	2.5
Brick floors	2	.5	4	.9	6	.7
Stone floors	1	.3	.....	.....	1	.1
Kind not specified	1	.3	22	4.7	23	2.8
Total	376	100.0	463	100.0	839	100.0

The bakery inspection law requires that rooms used for the manufacture of bakery products shall have smooth floors constructed of wood, cement, or tile laid in cement. According to Table XXIV, over five-sixths of all floors are of wood. In 48 establishments, according to Table XXIX, the floors were found to be in such condition as to necessitate the construction of new ones.

TABLE XXV—BAKERIES AND CONFECTIONERIES HAVING INSIDE CLOSETS CLASSIFIED ACCORDING TO NUMBER OF CLOSETS.

Establishments having—	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
One closet	93	46.8	121	70.3	214	57.7
Two closets	64	32.1	38	22.1	102	27.5
Three closets	26	13.1	8	4.8	34	9.2
Four closets	8	4.0	3	1.7	11	2.9
Five or more closet: *	8	4.0	9	1.1	17	2.7
Total	199	100.0	179	100.0	378	100.0

* Two establishments in Milwaukee have 13 inside closets and one has 15. One establishment outside Milwaukee has 6 closets and one has 7.

TABLE XXVI—BAKERIES AND CONFECTIONERIES HAVING OUTSIDE CLOSETS CLASSIFIED ACCORDING TO NUMBER OF CLOSETS.

Establishments having—	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number	Per cent.	Number.	Per cent.
One closet *	51	77.3	261	37.0	312	85.2
Two closets	15	22.7	39	13.0	54	14.8
Total	66	100.0	300	100.0	366	100.0

* Three establishments in Milwaukee and two outside Milwaukee have an inside and outside closet each. One in Milwaukee has 4 inside and 1 outside and one has 2 of each. One outside Milwaukee has 2 inside and 1 outside closet.

TABLE XXVII—BAKERIES AND CONFECTIONERIES HAVING CLOSETS CLASSIFIED AS TO NUMBER OF CLOSETS.

Establishments having—	In Milwaukee.		Outside Milwaukee.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
One closet *	140	54.1	371	30.5	511	71.0
Two closets	78	30.1	77	16.7	155	21.6
Three closets	26	10.0	8	1.7	34	4.7
Four closets	7	2.7	3	.6	10	1.4
Five or more closets	3	3.1	2	.5	10	1.4
Total	259	100.0	461	100.0	720	100.0

* See note under last table.

Tables XXV–XXVII afford an idea of the nature of the toilet facilities provided by the bakeries of the state for their employees. The law stipulates that toilet facilities shall be ample, and that no closet shall be within or communicate directly with any work-room of a bakery. In Milwaukee a large majority of the closets are within the buildings occupied, but a majority of those in other cities of the state are outside.

TABLE XXVIII—NUMBER OF ESTABLISHMENTS USING STEAM POWER, NUMBER OF BOILERS INSURED, AND AVERAGE EXPERIENCE OF ENGINEER.

Classification.	Firms having steam boilers.	Boilers.				Average no. years experience of engineer.
		No.	Total h. p.	No. insured.	No. not insured.	
In Milwaukee	11	16	889	14	2	19
Outside Milwaukee	5	5	287	3	2	14
Total	16	21	1,176	17	4	33

The above table shows that 16 of the establishments inspected use steam power, having from one to two boilers each. Over four-fifths of all the boilers are insured.

TABLE XXIX—NUMBER OF ORDERS ISSUED FROM JULY 1, 1904, TO OCT. 31, 1906.

Classification of orders.	Orders issued.	
	Number.	Percent
Whitewashing	174	19.6
Sanitation in general	144	16.2
Painting	49	5.5
New floor	43	5.4
New ceiling	9	1.0
Papering	4	0.5
Cleaning furniture	55	9.6
Cleaning utensils	52	5.9
Clean clothes for workmen	11	1.2
New side walls	9	1.0
New sink	20	2.2
Removing shop from basement	1	0.1
Guarding machinery	2	0.3
Plastering	9	1.0
New trough	4	0.5
Guard on elevator	4	0.5
Improving toilet facilities	47	5.3
Other orders	220	24.3
Total	892	100.0

Table XXIX shows the changes ordered by the inspector during the period covered by this report. For the 839 establishments inspected, a total of 892 orders were issued, an average of more than one to each establishment. The greater number of the orders related to whitewashing or painting the

walls of the work-rooms, improving the general sanitary conditions of the rooms, and cleaning the furniture and utensils used. All orders issued were enforced.

Although the value of the bakery inspection law has been demonstrated during the period of its existence, it has been found to be defective in certain particulars, and efforts are at present being made to amend it in such a manner as to increase its efficiency. If these efforts prove successful, the law can hardly fail to be regarded as one of the most efficacious statutes for guarding the health of the people of the state.

FREE EMPLOYMENT OFFICES.

The first free employment offices in Wisconsin were established pursuant to chapter 420 of the laws of 1901 which provided for such offices in each city having a population exceeding thirty thousand. This act applied only to Milwaukee and Superior at which places state employment offices were established. In 1903 the above law was repealed and a new law, chapter 434, laws of 1903, was enacted authorizing the establishment of four free employment offices in such cities as were determined upon by a state commission. In addition to those already opened at Milwaukee and Superior, offices were established under this law at La Crosse and Oshkosh. The following tables show the number of applications for employment and for help, both for males and females and the disposition of such application at each of the state employment offices for the year ending June 30, 1905, and June 30, 1906, a summary of the work of each office during the biennial period and a summary of the work of the four offices during that period. As the office at Oshkosh was not opened until November, 1904, the first report from that city is for only 32 weeks of the year ending June 30, 1905.

LABOR AND INDUSTRIAL STATISTICS.

REPORT OF THE MILWAUKEE OFFICE FOR THE YEAR ENDING JUNE 30, 1906.

of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
.....	28	28	28	.....	.....
.....	10	10	10	.....	.....
.....	4	4	4	.....	.....
.....	1	1	1	.....	.....
.....	68	68	68	.....	.....
.....	8	7	7	1	.....
.....	9	9	9	.....	.....
s	15	15	15	.....	.....
.....	4	4	4	.....	.....
akers	7	7	7	.....	.....
.....	80	98	80	.....	13
.....	1	1	1	.....	.....
.....	43	43	43	.....	.....
.....	11	10	10	1	.....
.....	9	9	9	.....	.....
.....	9	9	9	.....	.....
en	19	19	19	.....	.....
rs	80	80	80	.....	.....
's	29	29	29	.....	.....
operators	7	6	6	1	.....
.....	9	8	8	1	.....
s	1	1	1	.....	.....
nds	274	290	274	.....	16
is	443	406	443	.....	58
.....	7	7	7	.....	.....
.....	12	12	12	.....	.....
.....	1	1	1	.....	.....
.....	15	15	15	.....	.....
.....	15	15	15	.....	.....
n	8	8	8	.....	.....
.....	2,086	2,086	2,086	.....	.....
en	1	1	1	.....	.....
s	2	2	2	.....	.....
.....	11	8	8	3	.....
' helpers	1	1	1	.....	.....
.....	44	45	44	.....	1
s	1	1	1	.....	.....
.....	3	3	3	.....	.....
.....	1	1	1	.....	.....
.....	10	10	10	.....	.....
.....	2	2	2	.....	.....
.....	6	6	6	.....	.....
rs	1	1	1	.....	.....
akers	1	1	1	.....	.....
.....	12	12	12	.....	.....
.....	54	53	53	1	.....
ls	1	1	1	.....	.....
clerks	1	1	1	.....	.....
s	1	1	1	.....	.....
s	17	17	17	.....	.....
ers	2	2	2	.....	.....
.....	1	1	1	.....	.....
.....	143	143	143	.....	.....
.....	8	8	8	.....	.....
.....	15	15	15	.....	.....

ANNUAL REPORT OF THE MILWAUKEE OFFICE FOR THE YEAR
ENDING JUNE 30, 1906—Continued.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Males—Continued.					
Watchmen	2	2	2		
Woodmen	1	1	1		
Yardmen	2	2	2		
Total	3,602	3,682	3,594	8	88
Females:					
Bookbinders	2	2	2		
Chambermaids	77	77	77		
Clerks	5	5	5		
Cooks	91	99	91		8
Diningroom girls	236	263	226		37
Dishwashers	49	48	48	1	
Domestics	299	365	299		66
Factory girls	17	17	17		
Housekeepers	4	4	4		
Kitchen girls	206	213	206		7
Laundresses	32	33	31	1	2
Nurses	4	4	4		
Pantry girls	33	33	33		
Scrubwomen	70	73	70		3
Seamstresses	2	2	2		
Total	1,117	1,238	1,115	2	128

ANNUAL REPORT OF THE MILWAUKEE OFFICE FOR THE YEAR
ENDING JUNE 30, 1906.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Males:					
Agents	25	25	25		
Apprentices	30	30	30		
Attendants	5	5	5		
Bandsawyer	1	1	1		
Barber	1	1	1		
Barnmen	104	104	104		
Bartenders	5	5	5		
Bellboys	24	24	24		
Blacksmiths	23	22	23		
Boiler makers	3	3	3		
Bottle washers	6	6	6		
Buggy washers	3	3	3		
Busboys	10	10	10		
Butchers	3	3	3		
Cabinet maker	1	1	1		

ANNUAL REPORT OF THE MILWAUKEE OFFICE FOR THE YEAR
ENDING JUNE 30, 1906—Continued.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
les—Continued.					
Carpenters	127	127	127		
Shoremen	93	93	93		
Merks	14	14	14		
Coachmen	2	2	2		
Books	40	40	40		
Coppersmith	1	1	1		
Delivery men	36	36	36		
Derrick men	2	2	2		
Dishwashers	54	54	54		
Distributors	95	95	95		
Electricians	2	2	2		
Elevator operators	11	11	11		
Engineers	3	3	3		
Factory hands	277	277	277		
Farm hands	456	480	456		24
Finishers	4	4	4		
Firemen	25	25	25		
Foundrymen	3	3	3		
Guide	1	1	1		
Harvest hands	19	19	19		
Hostlers	6	6	6		
Hotel clerks	1	1	1		
Iron workers	9	9	9		
Janitors	25	25	25		
Joiners	1	1	1		
Kitchenmen	27	27	27		
Laborers	4,539	4,559	4,539		20
Lamplighters	2	2	2		
Lathers	4	4	4		
Locksmith	3	3	3		
Lunch counter men	1	1	1		
Machinists	12	12	12		
Machinists' helpers	7	7	7		
Masons	1	1	1		
Messengers	30	30	30		
Millwrights	4	4	4		
Molders	5	5	5		
Mounters	2	2	2		
Office boys	14	14	14		
Painters	43	43	43		
Pan washers	25	25	25		
Pin boys	18	18	18		
Porters	145	145	145		
Roofers	5	5	5		
Shipping clerks	3	3	3		
Steamfitters	21	21	21		
Stenographers	1	1	1		
Stockmen	2	2	2		
Street pavers	1	1	1		
Teamsters	208	208	208		
Insamths	3	3	3		
uckmen	112	112	112		
arnishers	9	9	9		
agonmakers	1	1	1		
alters	29	29	29		

ANNUAL REPORT OF THE MILWAUKEE OFFICE FOR THE YEAR
ENDING JUNE 30, 1906—Continued.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Males—Continued.					
Watchmen	6	6	6		
Weighers	2	2	2		
Window cleaners	5	5	5		
Woodmen	38	33	38		
Wood turners	2	2	2		
Yardmen	6	6	6		
Total	6,808	6,943	6,808		44
Females:					
Agents	1	1	1		
Bookkeeper	1	1	1		
Chambermaids	75	75	75		
Clerks	5	5	5		
Cooks	97	97	97		
Diningroom girls	233	233	233		6
Dishwashers	99	99	99		
Domestics	245	317	245		72
Factory girls	40	40	40		
Forelady	1	1	1		
Housekeepers	14	14	14		
Kitchen girls	243	247	243		5
Laundresses	29	29	29		
Nurses	24	24	24		
Pantry girls	43	43	43		
Scrubwomen	119	119	119		
Stenographer	1	1	1		
Total	1,267	1,350	1,267		83

ANNUAL REPORT OF THE SUPERIOR OFFICE FOR THE YEAR ENDING
JUNE 30, 1905.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- p'oyment.	For help.
Males:					
Barnmen	19	16	19		4
Bellboys	2	3	2		1
Blacksmiths	11	13	11		2
Carpenters	94	100	94		6
Cooks	14	18	14		4
Engineer	1	1	1		
Factory hands	18	20	18		4
Farm hands	6	7	6		1
Harvesters	181	181	181		
Hotel clerks	1	1	1		

ANNUAL REPORT OF THE SUPERIOR OFFICE FOR THE YEAR ENDING
JUNE 30, 1905—Continued.

Classification of positions.	Number of applications filed.		Number of positions filled.	Number of applications unfilled.	
	For employment.	For help.		For employment.	For help.
Classes—Continued.					
Janitor	1	1	1		
Laborers	2,887	2,887	2,887		
Machinists	2	2	2		
Millwrights	4	5	4		1
Painters	2	3	2		1
Pan washer	1	1	1		
Porters	39	45	39		6
Solicitors	2	2	2		
Stockmen	7	8	7		1
Teamsters	9	10	9		1
Watchman	1	1	1		
Total	3,293	3,325	3,293		2
males:					
Chambermaids	34	41	34		7
Cooks	45	78	45		33
Diningroom girls	133	159	133		26
Domestics	319	605	319		286
Housekeepers	2	2	2		
Kitchen girls	146	173	146		27
Laundry girls	3	3	3		
Nurse girls	23	32	23		9
Pantry girl	1	1	1		
Saleslady	1	1	1		
Scrub girls	5	8	5		2
Total	714	1,103	713		390

ANNUAL REPORT OF THE SUPERIOR OFFICE FOR THE YEAR ENDING
JUNE 30, 1906.

Classification of positions.	Number of applications filed.		Number of positions filled.	Number of applications unfilled.	
	For employment.	For help.		For employment.	For help.
Classes:					
Blacksmiths	25	31	25		6
Bell boys	21	26	21		5
Barrenmen	40	48	40		8
Bridgemen	24	35	24		11
Bricklayers	2	4	2		2
Bookkeepers	3	4	3		1
Cooks	31	40	31		15
Carpenters	206	220	206		20
Store boys	8	8	8		
Cooks	2	2	2		

ANNUAL REPORT OF THE SUPERIOR OFFICE FOR THE YEAR ENDING
June 30, 1906—Continued.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Carriage washer	1	1	1		
Dairymen	5	5	5		
Engineers	7	7	7		
Farm hands	71	91	71		20
Factory hands	113	116	113		3
Firemen	3	2	2		
Harvesters	423	423	423		
Janitors	3	3	3		
Laborers	3,233	3,233	3,233		
Millwrights	6	7	6		1
Machinists	11	13	11		2
Mill men	9	12	9		3
Moulder	1	1	1		
Porters	44	51	44		7
Pan washers	11	13	11		2
Stockmen	9	12	9		3
Solicitors	5	5	5		
Teamsters	53	53	53		
Watchmen	3	2	3		
Total, 53 weeks	4,371	4,490	4,371		109
Females:					
Chambermaids	119	134	112		22
Cooks	67	129	67		62
Domestics	381	726	381		345
Dining room girls	179	237	179		58
Housekeepers	8	8	8		
Kitchen girls	132	211	129		29
Laundresses	10	10	10		
Nurses	6	3	6		2
Pantry girls	7	7	7		
Seamstresses	13	13	13		
Saleslady	1	1	1		
Solicitors	3	3	3		
Scrub girls	21	22	21		1
Washwomen	2	2	2		
Total, 53 weeks	992	1,511	993		519

IND INDUSTRIAL STATISTICS.

LA CROSSE OFFICE FOR THE YEAR ENDING
JUNE 30, 1905.

Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
For em- ployment.	For help.		For em- ployment.	For help.
7	14	7	.....	7
9	.....	.....	9	.....
4	4	4	.....	.....
2	6	2	.....	4
8	2	2	6	.....
2	20	2	.....	18
1	25	1	.....	24
51	79	54	2	18
1	1	1	.....	.....
31	1	1	30	.....
1	1	1	.....	.....
13	13	13	.....	.....
1	1	1	.....	.....
3	8	8	.....	.....
22	15	15	7	.....
1	1	1	.....	.....
13	13	13	.....	.....
76	107	76	.....	31
5	5	5	.....	.....
1	1	1	.....	.....
709	713	709	60	4
4	.....	.....	4	.....
1	1	1	.....	.....
44	17	17	27	.....
1	1	1	.....	.....
2	2	2	.....	.....
1	7	1	.....	6
3	3	3	.....	.....
2	.....	.....	2	.....
15	15	15	.....	.....
2	1	1	1	.....
4	4	4	.....	.....
93	88	88	10	.....
4	4	4	.....	.....
1	1	1	.....	.....
.....	4	.....	.....	4
12	.....	.....	12	.....
15	15	15	.....	.....
2	2	2	.....	.....
42	42	42	.....	.....
11	11	11	.....	.....
1,295	1,241	1,125	170	116
2	2	2	.....	.....
15	15	15	.....	.....
32	1	1	31	.....
13	13	13	.....	.....
22	23	22	.....	1
256	208	254	2	43
97	106	83	9	18
5	3	3	2	.....
15	16	15	.....	1
4	4	4	.....	.....

ANNUAL REPORT OF THE LA CROSSE OFFICE FOR THE YEAR ENDING
JUNE 30, 1905—Continued.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Females—Continued.					
Nurses	8	8	8		
Scrubwomen	56	62	53		4
Seamstresses	8	7	8		4
Stenographers	20			20	
Waiters	5	5	5		
Washwomen	25	25	25		
Total	530	592	514	64	75

ANNUAL REPORT OF THE LA CROSSE OFFICE FOR THE YEAR ENDING
JUNE 30, 1906.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Males:					
Agents	8	8	8		
Barn man	1	1	1		
Bell boys	2	2	2		
Blacksmith	1	1	1		
Bricklayers	12	12	12		
Carpenters	44	44	44		
Canvassers	1	1	1		
Choremens	6	6	6		
Clerk	1	1	1		
Coachman	1	1	1		
Cooks	6	6	6		
Deliverymen	13	13	13		
Engineer	1	1	1		
Farm hands	69	66	62		4
Factory hands	123	129	128		1
Hack man	1	1	1		
Janitors	3	3	3		
Laborers	1,369	1,093	1,399		5
Office boy	1	1	1		
Painters	14	15	14		1
Panwasher	1	1	1		
Porters	3	3	3		
Section hands	3	3	3		
Stone cutters	2	2	2		
Stone masons	1	1	1		
Teamsters	30	30	30		
Tinner	1	1	1		
Truck men	3	3	3		
Wood sawyers	9	9	9		
Wood choppers	12	12	12		
Yard men	12	12	12		
Total	1,471	1,482	1,471		11

ID INDUSTRIAL STATISTICS.

I LA CROSSE OFFICE FOR THE YEAR ENDING
 JUNE 30, 1906—Continued.

Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
For em- ployment.	For help.		For em- ployment.	For help.
2	2	2	.....	.....
12	12	12	.....	.....
11	11	11	.....	.....
28	28	28	.....	.....
6	6	6	.....	.....
248	428	248	.....	180
71	77	71	.....	6
5	5	5	.....	.....
38	38	38	.....	.....
3	8	3	.....	.....
4	4	4	.....	.....
69	69	69	.....	.....
4	4	4	.....	.....
41	41	41	.....	.....
7	7	7	.....	.....
544	739	544	.....	183

E OSHKOSH OFFICE FOR THE YEAR ENDING
 JUNE 30, 1905.

Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
For em- ployment.	For help.		For em- ployment.	For help.
8	8	8	.....	.....
1	1	1	.....	.....
2	2	2	.....	.....
2	2	2	.....	.....
3	3	3	.....	.....
10	10	10	.....	.....
10	10	10	.....	.....
3	3	3	.....	.....
1	1	1	.....	.....
182	132	182	.....	.....
42	42	42	.....	.....
1	1	1	.....	.....
100	100	100	.....	.....
17	17	17	.....	.....
16	16	16	.....	.....
1	1	1	.....	.....
1	1	1	.....	.....
2	2	2	.....	.....
1	1	1	.....	.....
2	2	2	.....	.....

ANNUAL REPORT OF THE OSHKOSH OFFICE FOR THE YEAR ENDING
JUNE 30, 1905—Continued.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Males—Continued.					
Snow shovellers	22	23	22		
Stenographers	1	1	1		
Teamsters	1	1	1		
Yardmen	12	12	12		
Total	441	441	441		
Female:					
Agents	1	1	1		
Chambermaid	1	1	1		
Clerks	1	1	1		
Cooks	14	14	14		
Diningroom girls	22	22	22		
Domestics	162	162	162		
Factory girls	14	14	14		
Housekeepers	12	12	12		
Kitchen girls	22	22	22		
Laundry girls	1	1	1		
Nurses	6	6	6		
Scrubwomen	16	16	16		
Seamstress	1	1	1		
Tailor	1	1	1		
Washwomen	19	19	19		
Total	293	293	293		

ANNUAL REPORT OF THE OSHKOSH OFFICE FOR THE YEAR ENDING
JUNE 30, 1906.

Classification of positions.	Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
	For em- ployment.	For help.		For em- ployment.	For help.
Males:					
Agents	4	4	4		
Attendants	67	67	67		
Baker	1	1	1		
Blacksmiths	4	4	4		
Cabinet makers	2	2	2		
Canvassers	24	24	24		
Carpenters	12	23	19		4
Clerks	5	5	5		
Chore boys	3	3	3		
Coachmen	7	7	7		
Cooks	4	4	4		
Delivery drivers	3	3	3		
Diggers	14	14	14		
Distributors	4	4	4		
Engineer	1	1	1		

D INDUSTRIAL STATISTICS.

COAST GUARD OFFICE FOR THE YEAR ENDING
JUNE 30, 1906—Continued.

Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
For em- ployment.	For help.		For em- ployment.	For help.
249	249	249		
88	88	88		
2	2	2		
2	9	2		
1	1	1		
2	2	2		
519	519	512		
4	4	4		
18	18	18		
5	5	5		
6	6	6		
2	2	2		
2	2	2		
20	20	20		
2	2	2		
1	1	1		
3	8	8		
3	8	3		
1	1	1		
1	1	1		
1	1	1		
2	2	2		
3	3	3		
1	1	1		
1	1	1		
4	4	4		
22	92	22		
1,125	1,129	1,125		4
8	3	3		
4	4	4		
5	5	5		
8	3	3		
32	32	33		
42	42	42		
8	3	3		
376	394	376		18
23	28	28		
21	21	21		
46	46	46		
2	2	2		
13	13	13		
2	2	2		
55	55	55		
1	1	1		
28	28	28		
624	682	664		18

SUMMARY OF THE FOUR OFFICES FOR YEAR ENDING JUNE 30, 1906.

Classification of positions.	Number of applications filed.		Number of positions filled.	Number of applications unfilled.	
	For employment.	For help.		For employment.	For help.
Males:					
Milwaukee office	3,602	3,632	3,594	8	88
Superior office	3,293	3,325	3,293		32
La Crosse office	1,295	1,241	1,125	170	116
Oshkosh office	441	441	441		
Total	8,631	8,639	8,453	178	236
Females:					
Milwaukee office	1,117	1,233	1,115	2	123
Superior office	713	1,103	713		390
La Crosse office	590	592	516	64	76
Oshkosh office	293	293	293		
Total	2,703	3,221	2,637	66	589

SUMMARY OF FOUR OFFICES FOR YEAR ENDING JUNE 30, 1906.

Classification of positions.	Number of applications filed.		Number of positions filled.	Number of applications unfilled.	
	For employment.	For help.		For employment.	For help.
Males:					
Milwaukee office	6,899	6,942	6,899		44
Superior office	4,371	4,480	4,371		109
La Crosse office	1,471	1,452	1,471		11
Oshkosh office	1,125	1,129	1,125		4
Total	13,865	14,033	13,865		168
Females:					
Milwaukee office	1,267	1,350	1,267		83
Superior office	992	1,511	992		519
La Crosse office	544	730	544		186
Oshkosh office	664	683	664		18
Total	3,467	4,273	3,467		806

ND INDUSTRIAL STATISTICS.

ICES FOR BIENNIAL PERIOD ENDING JUNE 30,
1906.

Number of applica- tions filed.		Number of positions filled.	Number of applica- tions unfilled.	
For em- ployment.	For help.		For em- ployment.	For help.
10,500	10,024	10,492	3	132
7,064	7,806	7,064	.....	141
2,706	2,723	2,526	170	127
1,566	1,570	1,566	.....	4
22,496	22,722	22,313	173	404
2,354	2,583	2,353	2	206
1,705	2,614	1,705	.....	909
1,124	1,322	1,060	64	262
957	975	957	.....	13
3,170	7,199	6,104	66	1,395
17,684	13,213	12,574	10	333
9,309	10,419	9,309	.....	1,050
3,590	4,045	3,656	234	389
2,523	2,545	2,523	.....	22
28,666	30,221	28,422	244	1,799

APPENDIX.

A CHRONICLE OF INDUSTRIAL EVENTS.

The following extracts from state newspapers pertain to events of interest to employers, workmen, or both, which occurred during the year ending October 31, 1906. The purpose of making the compilation was to collect such data as would serve as a basis for a study of the industrial conditions which existed and the changes which occurred during the year. It will become apparent that the field has not been covered so completely as to make the attainment of this end possible. The individual facts have nevertheless been considered as of sufficient interest to warrant their presentation.

Albany, March 14, 1906.—The Albany Linen Mills Co. have enlarged their plant so that the full equipment is 500 looms; 150 hands will be employed in addition to the regular force.

Appleton, January 6, 1905.—Laboring men who are married and willing to work are very much in demand in the mining camps of the north. Companies will not hire single men, but offer big inducements to married men. Average wage this year is \$2.23 against \$1.98 last year.

Appleton, November 3, 1905.—Appleton experiences a labor famine. Impossible for employers to obtain sufficient labor to carry on industrial improvements.

Appleton, January 11, 1906.—New sulphite plant of the Riverside Fibre and Paper Company is completed and ready for operation. It replaces mill destroyed by fire May last and is said to be one of the largest in United States and the best plant of its kind in the world.

Appleton, July 12, 1906.—A prominent lumberman of Appleton says laborers are very scarce. A telegram came this morning that 60 mill hands were wanted in Donald, a little town on the Chippewa River,

and it was impossible to secure them. Reason is that many men are working in the harvest fields near here, while some have gone to North Dakota.

Appleton, Aug. 18, 1906.—Believing that his employees were going out on a strike this morning, George Smith, the largest cigar manufacturer in Neenah, discharged his entire force of 20 cigar makers last night. The girls who were stripping tobacco were told to take a vacation until other men could be secured.

The union label was used and union men were employed as in all other factories here. Mr. Smith will hire the men back again, but will retire from business before he will be dictated to or grant the demands made by his erstwhile employees.

Evening Wisconsin, May 31. Ashland, Wis.—De Fer's mill at Saxon burned to the ground, involving a loss of \$30,000. Fire throws 100 men out of employment.

Evansville Review, Aug. 16, 1906. Beloit News.—Sixty men are working for the Rock County Cigar Company in Janesville, installing new machinery, cleaning up the factory and getting ready for the large amount of beets to be brought in this fall and winter.

Beloit Daily Free Press, Sept. 15, 1906.—The Warner Instrument Company will build a new factory in South Beloit. Their business has outgrown their present accommodations. The Warners expect to have about 100 persons employed in the new shops when completed.

Brodhead, January 25, 1906.—The American Cigar Company's plant is in full operation, employing over 100 hands.

Chippewa Falls, November 14, 1905.—A new furniture company has been formed. The management is composed of the leading business men of the town. The plant will give employment to about 75 skilled laborers.

Chippewa Falls, December 20, 1905.—A large crew is going from here to work on the line of the Wisconsin Central, building from Owen to Superior. Company is paying as high as \$2.00 a day for men. The work is to continue throughout the winter.

Cudahy, March 5, 1906.—Power and Mining Co. began erection of an addition to its plant, costing \$300,000. This added 300 men to the laboring force.

De Pere, November 8, 1905.—Work begun on a large addition to the Kidney Boat Factory. Additional machinery to be placed in the plant, necessitating a larger working force.

De Pere, January 3, 1906.—The Western Steel and Iron Works, capitalized at \$400,000, are moving their plant from Green Bay to this place. About 15 hands will be employed at the start, on January 6, 1906.

De Pere, January 26, 1906.—The Burns Boiler & Manufacturing Company's plant is to remain in De Pere and capital stock is increased from \$100,000 to \$200,000, \$25,000 of which is subscribed locally. Foundry will be enlarged and other improvements made as soon as possible and company will give employment to 150 hands, which number will be steadily increased.

Milwaukee Free Press, August 6, 1906. Dodgeville, Wis.—The new 50-ton concentrating mill at the McKinley mines, two miles east of this city, has commenced operation. The construction of the building took 65,000 feet of lumber and 325 barrels of cement. It will take 50 men to keep the mill running at its full capacity.

Eau Claire, December 2, 1905.—The factory of the Mussen-McLaren Shoe Co., recently sold to Mr. Phillips, of Duluth, is being moved to that place. Factory gave employment to 50 employees and its loss will be keenly felt.

Eau Claire Leader, July 19, 1906.—There was a short strike of the employees of the two ice companies Monday that resulted in the demands of the men being granted.

They wanted an increase in wages of from \$1.75 to \$2.00 per day. The \$2.00 wage was granted. Should these wages be demanded next year, the price of ice will be raised.

Eau Claire, September 18, 1906.—The Lange Canning Factory at Eau Claire employs a large number of men and women to handle the amount of corn that is now being brought in.

Fond du Lac Commonwealth, July 10, 1906.—Nearly 10,000 building laborers who have been earning 30 cents an hour for the last three years have been granted an increase of 5 cents an hour or 40 cents per day. Calsson workers receive 50 cents an hour. The agreement was made by the Mason and Builders' association.

Fond du Lac, Wis., August 14, 1906.—Raise of wages for street car men will go into effect September 1 for the employees of the Eastern Wisconsin Railway and Light Company, in charge of both city and interurban cars. In city service, employees working for the company for the first six months will receive 15 cents an hour; second six months, 16 cents; and thereafter 17 cents an hour. On the interurban, employees will receive, under the new schedule, 17 cents an hour for the first year; 18 cents for the second; 19 cents for the third, and 20 cents thereafter.

Fond du Lac, Wis., September 26, 1906.—About fifteen men employed by Contractor J. O. Jones on the Division Street pavement went on strike. They were receiving \$2.00 per day and struck for a raise of 25 per cent, which was not granted. Four men returned for \$2.25 per day. Others are still out. The following morning the work started the same as usual, new men having been engaged to fill the places of those who struck the day previous.

Fond du Lac, December 5, 1906.—Ninety Italians, who have been employed by the Barker Asphalt Co. on the Sheboygan Street pavement work as concrete mixers, quit work Tuesday. They went to the justice of peace and said they were unable to get their pay. Papers were served on the company, but they found there was nothing upon which to base their suit. The Italians were paid the wages due them and they paid the court costs. They returned to Chicago and new men will take their places.

Glenwood, January 18, 1906.—A. J. Vander Hiden is to establish a factory for the manufacture of bolts. Will give employment to about twenty hands.

Grand Rapids, October 11, 1906.—The New Sulphite mill will be completed by the first of November and it will employ 150 men.

Wood County Times, October 18, 1906. Grand Rapids.—This afternoon 100 molders employed by the Wisconsin Engine Company went on a strike, claiming 'they were promised ten hours' pay for nine hours' work, which they did not get, so they all walked out.

Green Bay, April 21.—Painters and decorators of Duluth and Superior went on strike for raise in wages yesterday.

Hayward, November 14, 1905.—Diamond Match company is to put in a plant here. The new factory will give employment to about 60 hands.

Janesville, January 8, 1906.—Capital stock of the Western Shoe Co. increased from \$25,000 to \$50,000. Output is to be doubled and company will give employment to a force of 40 or 50 men.

Janesville, February 16, 1906.—The Rock County Sugar Company's factory closed its factory for the season. The 54,000 tons of sugar beets delivered during the year have yielded 12,637,029 pounds of sugar. Four hundred laborers were employed during the season.

Janesville Gazette, July 11, 1906.—Janesville Sash & Door Co. employ 80 men but are unable to put out all the work they receive orders for and are forced to sublet some of it.

Kenosha, November 1, 1905.—Wisconsin State Federation of Women's Clubs held convention at Kenosha and adopted resolutions asking Congress to provide for an investigation by a bureau of experts of conditions under which women wage earners in the country work and the reason for the rapid increase in women workers.

Kenosha, November 31, 1905.—Contractors of the city are to form a union or association for the purpose of purchasing their building material at lower rates.

Over 300 men and women are employed in the gathering of the cabbage crop which is one of the largest crops raised in this vicinity.

Kenosha, May 3, 1906.—Bakers of this city declined to work Wednesday night and are on strike. They want higher wages. The action of the men did not affect the supply of bread and pastry as the bosses took the places of strikers, and will for an indefinite time. They say they will not raise wages.

Kenosha, May 14, 1906.—A large force of about 400 section laborers on the new spur of the Chicago & Northwestern Ry., about two miles from here, have struck. They demand an increase in wages of 25 cents per day. It is thought that new men will take their places.

Kenosha, June 1.—Twelve men who controlled the delivery of ice here went on a strike this morning; wagons of the two companies remained in the yards and many people went without ice. It is thought that their wages will be increased. Knickerbocker Co.

Kenosha, June 5.—Three new factories have been given sites in the city and will operate as soon as possible,—concrete block factory, piano factory, necktie factory. These will give employment to about 500 men.

The Telegram Courier, Kenosha, August 23, 1906.—Ground is broken here for a big plant for Marshall Ventilating Mattress Co., in Kenosha. Will manufacture cushions, seats, mattresses, etc. With the opening of the plant about 75 men will be employed.

La Crosse, November 2, 1905.—About 20 employees of the La Crosse Rubber mills walked out. Said to be a sympathetic strike, because one of their number was discharged.

La Crosse, November 2, 1905.—All of the electricians and linemen of the four telephone companies centering at La Crosse struck for recognition of the union. Companies are paying union scale and working union hours and the question of the open shop is the point at issue. Wisconsin Telephone Co. and La Crosse Telephone Companies completely tied up.

La Crosse, November 2, 1905.—Crew of the rafter Ravenna will not work in cold weather, so half of them struck at Winona and the rest at La Crosse. Others were secured after considerable delay.

La Crosse, November 3, 1905.—La Crosse Rubber Co. again running with full force. New men were secured to fill the places of the strikers, none of whom will be taken back.

La Crosse, November 3, 1905.—Three dozen men secured employment at the Wisconsin Free Employment Bureau last week. Demand for labor is large, orders for men have piled up, but still the working classes do not seek positions.

La Crosse, November 10, 1905.—Striking union electricians have secured employment with the La Crosse Interurban Telephone company. The La Crosse Telephone company has filled positions vacated by strikers, while the Wisconsin company had no difficulty in securing men immediately after the strike was declared against it.

La Crosse, November 23, 1905.—The Humane Society is taking aggressive steps towards the enforcement of the child labor law in that city.

La Crosse, December 12, 1905.—The La Crosse newspapers have all signed an eight hour scale with the Typographic Union. This action avoided a strike which was ordered for January 1, 1906.

La Crosse, December 12, 1905.—Striking union electricians have returned to work for the La Crosse and Wisconsin Telephone Companies after a strike of seven weeks which has been declared off. No concessions were made to them.

La Crosse, January 2, 1906.—A strike has been declared in job offices as a result of an attempt to enforce the eight hour day by the International Typographical Union.

La Crosse, February 8, 1906.—Cement sidewalk contractors have formed a combination to protect their interests. Prices will be raised 25 per cent, due to the increased cost of cement.

La Crosse, February 23, 1906.—An agreement to maintain uniform prices was reached by the ice dealers and arrangements made for doubling the price for the summer of 1906.

La Crosse, March 8, 1906.—Boss carpenters organized to combat demands of carpenters' union for a raise in wages on April 1, from 22 to 30 cents per hour; also double pay for Sundays.

La Crosse, March 20, 1906.—The La Crosse Building Association has been formed for the purpose of opposing any concerted action on the part of the unions.

La Crosse, May 10.—There was a strike yesterday among the carpenters who were building the high school; they demanded an increase in wages of 5 cents per hour. Their places were filled by non-union men.

La Crosse Leader Press, June 1.—Articles of incorporation were filed at Madison for the Litho Paint Sign Co. of this city, with a capital of \$25,000. Between 15 and 20 hands will be employed at the start, and more as business warrants.

La Crosse, August 4, 1906.—The La Crosse Boiler Company is having plans drawn by Schick & Roth for a new boiler plant. The erection will mean an increased labor force and the business will be conducted on a larger scale.

La Crosse Leader-Press, Aug. 29, 1906.—A strike among the men employed by Contractors Wooley & Hanson on the Caledonia Street brick paving job was on yesterday afternoon. They wanted an increase from \$1.65 to \$1.75 per day. The wages were granted and the men went back to work.

La Crosse Weekly Chronicle, October 4, 1906.—A half dozen men employed by Groff & Derr struck for a raise. They are now getting 17½ cents per hour and they asked for \$2.00 per day. Other men will be employed.

Lake Mills, March 1, 1906.—The ice houses at the head of the lakes have employed 175 men, nearly one-half of whom are from Indiana.

Madison State Journal, Aug. 25, 1906.—Ten city quarrymen went on a strike this afternoon because their foreman worked them too hard.

Madison, October 1, 1906.—An addition that will largely increase the capacity of the Northern Electrical Plant will soon be under way. When this is completed it will employ 200 more men.

Manitowoc, November 3, 1905.—The masons, who were among the number who quit work on the new court house a month ago when a disagreement arose, returned to work.

Manitowoc, January 10, 1906.—The Shipwrights' and Bollermakers' Unions try to force the Manitowoc Dry Dock Co. and the Manitowoc Steam Boiler Works to recognize the union and eight hour day. As the result of a strike these companies have been compelled to cancel contracts.

Marinette, November 18, 1905.—Sheet Metal workers organized a union. It is allied with the Marinette and Menominee Trades Council.

Marinette, December 18, 1905.—Marinette Knitting Mills is to enlarge its mill. Concern is now employing sixty hands and expects to have over a hundred before another six months.

Marinette, January 17, 1906.—International Shingle Weavers' Union, now in session at Hoquiam, Wash., elected Joseph Bolger of this city president. It was decided to open a free employment bureau in Marinette for the benefit of union men in Wisconsin and Michigan. June 1, 1907, was fixed as the date when the International Union would demand an eight hour day throughout the United States and Canada.

Marinette, July 6, 1906.—Labor is scarce and employers have to send outside the city for masons and bricklayers.

Marinette, August 16, 1906.—Menominee has landed another large factory in the Floyd Manufacturing Co., of Minneapolis, manufacturers of steel and wire novelties. The plant will be equipped with foundries and machine shops. The factory will employ from 400 to 600 men.

Marinette, August 25, 1906.—A sugar factory is to be started here. In addition to this the pickling plant of the Carpenter Cook Company was put into operation Tuesday and a force of from 20 to 30 men were employed in picking over the various vegetables. The output of this plant will be greater next year.

Marinette, September 12, 1906.—John Lindem of the Marinette Planing Mill, stated today that his company is preparing for and now has the material on the ground to double the capacity of their Marinette plant and to give employment to fully 75 additional workmen. Business of the company has increased faster than they have been able to take care of.

The Daily Eagle Star, Marinette, October 4, 1906.—A committee of the Typographical Union, having asked for a recognition of the union and shorter hours of labor and their demands being refused by the publishers of the Herald Leader and Eagle Star, the men walked out at 3 o'clock today without notice. Other help has been secured.

Marinette, October 17, 1906.—The Carpenter Cook Co., of Menominee, intend to make its preserving plant one of the largest in the country and over \$25,000 has been spent on it this year. The extensive work will not start in until next fall. It is planned to employ four or five hundred new hands in the industry.

Menasha, January 17, 1906.—On account of a reduction of 25 per cent per day in their rate of pay, fifteen men employed as single handlers at the Wisconsin Central Railway single piles, struck. The men had been getting \$1.50. Company is unable to obtain men to fill the places vacated.

Menomonie, December 15, 1905.—Machinists of the Globe Iron Works went out on a strike. Their principal demand is the abolition of the piece work system.

Milwaukee, October 31, 1905.—Printers of the city vote to donate 50 cents per week for carrying on a strike in other cities. Winter meetings being held at which the members are being taught color mixing.

Milwaukee, November 1, 1905.—Carmen employed by the Milwaukee road have reached agreement under which they obtained a raise of 5 cents per day. Hours of work remain the same.

Milwaukee, November 2, 1905.—Strike of iron workers on the plant of Allis Chalmers Co., West Allis, has not yet been settled.

One of the national officers of the Sheet Metal Workers' Union is here trying to settle the strike which has been on for many months. Several of the larger shops, which formerly employed union men, now employ non-union men.

Milwaukee, November 2, 1905.—Structural Iron Workers employed in the erection of the new Allis-Chalmers shops at West Allis struck. Trouble was caused by J. R. Oscar Daniels, who has the contract from the Allis Chalmers people, using material from the American Bridge & Iron Works, against which company there is a strike.

Milwaukee, November 2, 1905.—The Hod Carriers' Union has joined the building trades section of the Federated Trades Council. This action added great strength to the section, which also comprises the Brick Layers' and Masons' Union.

Milwaukee, November 3, 1905.—An Allis Chalmers Club has been organized by that company, to promote a social spirit among its employees and strengthen their loyalty to its interests.

Milwaukee, November 6, 1905.—The Street Railway Company is to build a belt line. Extension is of special importance to the towns of Lake, Cudahy, St. Francis and South Milwaukee. Many laborers to be employed.

Milwaukee, November 13, 1905.—Three hundred linemen employed by the Wisconsin Telephone Company went out on a strike. They were getting a graded pay of from \$2.35 to \$2.89 and demand a flat rate of \$2.75. They worked nine and one-half hours, with a Saturday half holiday and they now demand an eight and one-half hour day with a half holiday.

Milwaukee, November 23, 1905.—The construction and maintenance men of the Wisconsin Telephone Company, who struck ten days ago, have made a settlement with the company and have returned to work. Strikers gained practically every point for which they struck.

Milwaukee, November 23, 1905.—Members of the Steam Fitters' Union nominally on a strike, but all members of the union are working full time.

Milwaukee, December 6, 1905.—The English firm of N. & T. Avery Co., Ltd., of Birmingham, Eng., is to build a plant for the manufacture of scales in North Milwaukee. Plant is to employ 500 men.

Milwaukee, December 13, 1905.—Matthews Bros. Mfg. Company's plant on Fourth street, employing about four hundred men, has inaugurated the closed shop, with none but union men employed.

Milwaukee, December 26, 1905.—The Pressed Steel Plant Company has closed a deal for the purchase of the plant of the Milwaukee Electric Company for \$75,000 and will immediately begin improvements calling for the expenditure of \$50,000. The plant will employ between 350 and 400 men.

Milwaukee, January 6, 1906.—Settlement of the strike of machinists at the works of the Brown-Corliss Engine Company at Corliss may be reached today. Forty men were affected by the strike at Corliss. The union claimed that members of the organization, particularly of its local members, were discriminated against by the Company. The strikers finally settled down near the machine shops, living in tents erected on a lot belonging to one of the members of the union. This method of conducting a strike attracted attention in labor circles throughout the United States.

Milwaukee, January 12, 1906.—Employees of the Milwaukee Electric Railway and Light Company, who have been in the continuous service of the company for ten years, had wages increased one cent per hour. One hundred men were affected by the raise.

Milwaukee, January 17, 1906.—Fourteen members of the Typographical Union, employed by a local printing establishment, quit work today because it is alleged that the firm is doing printing for the state of Minnesota without a contract.

Milwaukee, January 2, 1906.—Support to the striking members of the union at the shop of the Cannon Printing Company was voted by the Milwaukee Local of the Typographical Union. A number of the strikers have secured positions with other firms.

Milwaukee, January 23, 1906.—The Hammersmith Engraving Company decided to hold an open shop. Fifteen of the union engravers quit the firm and four broke with the union.

Milwaukee, January 24, 1906.—Striking members of Typographical Union, No. 23, have been enjoined from in any way interfering with the Cannon Printing Company or any of its employees.

Milwaukee, January 25, 1906.—The fifteen engravers who had been locked out by the Hammersmith Engraving Company, returned to work after signing the open shop agreement.

Milwaukee, January 26, 1906.—All of the difficulties at the Academy of Music have been adjusted by the Building Trades' Council, and the men affected have returned to work. Trouble was caused by Plasterers' Union, No. 138, refusing to allow decorators to proceed with work which the plasterers claimed came within their jurisdiction. In this connection the plasterers were successful.

Milwaukee, January 27, 1906.—Employees of the Milwaukee Gas Light Company, who have been in the employ of the company a year, and regularly during the time were given an additional six per cent of their wages during the preceding six months. In carrying out this policy the company pensions aged employees when it is decided that they are not fit to continue longer in their employment.

Milwaukee, February 1, 1906.—Seven hundred Milwaukee painters will strike on May 1st, if the employing painters do not grant a demand for an increase of wages of five cents an hour. There are about 1,000 painters in Milwaukee, of which considerably over one-half are members of the union.

Milwaukee, February 13, 1906.—A new Walters' Union has been formed with a membership of nearly fifty.

Milwaukee, February 13, 1906.—Local Bakers' Union vote to demand an increase in their wages, to take effect May 1st, 1906.

Milwaukee, February 16, 1906.—The stationary and hoisting engineers will follow in the wake of the painters in demanding an increased wage scale after May 1st. The present scale is fifty cents an hour. How much increase will be demanded the officers decline to disclose at present.

Milwaukee, February 26, 1906.—Several tailors in the employ of August Rohn, 264 W. Water St., went on a strike yesterday morning. The union men maintain that the reason for the strike is the fact that non-union help was hired in the shop. Mr. Rohn says it is because he refused to re-employ an incompetent tailor whom he had discharged.

Milwaukee, February 26, 1906.—Demanding an increase of 5 cents an hour in their pay, about 40 bricklayers went on a strike at the plant of the Allis-Chalmers Company, at West Allis yesterday. At the present time the men receive 50 cents an hour. The officials of the company state that an early settlement can be looked for.

Milwaukee, March 1, 1906.—The Italian laborers who went on a strike at West Allis because their hours of employment were too short, were pacified and returned to work.

Milwaukee, March 20, 1906.—Twenty coremakers of the Allis-Chalmers Company returned to work after having been on a three days' strike.

Milwaukee, March 22, 1906.—An addition to the Milwaukee Road shops has been begun. This addition, when completed, will increase the pay roll from \$325,000 to \$700,000. The increase in the car-wheel output will be from 185 to 600 per day. Over 2,000 people are now employed in the shops and the addition will employ some 4,500 additional.

Milwaukee, March 28, 1906.—About 200 section hands, employed in the Milwaukee road yards in the Menomonee Valley, and about the yards of the West Milwaukee Shops, went on a strike, demanding an increase in pay from \$1.50 to \$1.75 per day.

Milwaukee Journal, April 25, 1906.—Kenosha. The striking tanners at the Central Leather Company's plant returned to work today. There is an increase of wages of 50 cents per week. Men have dropped their demand for a three years' contract.

Milwaukee, May 2, 1906.—One thousand and two hundred molders went on a strike in Milwaukee this morning for increased wages and shorter hours. When the seven o'clock whistle blew not a man appeared for work in the foundries of any of the shops of the Milwaukee Foundrymen's Association.

Evening Wisconsin, May 28, 1906.—Boilermakers at the Power and Mining Machinery Company plant, who struck, have reached an amicable understanding with their employers and have gone back to work.

Milwaukee Free Press, May 31, 1906.—Tanners employed by Pfister & Vogel Company asked an increase in pay from 15 to 16 cents per hour. It was met with a refusal. Several hundred are employed.

Tanners in the employ of the American Hide & Leather Company will receive an increase of 1 cent an hour.

Milwaukee Free Press, June 8, 1906.—Molders' strike in Milwaukee is still on. The union is one of the strongest in existence. It is said that about 5,000 men are on a strike all over the country. Strikers receive \$7.00 per week from the treasury of the union.

Milwaukee Free Press, June 13, 1906.—The machinists employed by the C., M. & St. P. road were last week given a raise of 15 per cent. This raise affects about 40.

The foundry men of Milwaukee offered the molders an advance in wages or shorter hours, with the same pay. The union molders demanded a written agreement for recognition of the coremakers and a closed shop agreement, and that is the issue. The foundry men voluntarily increased wages of coremakers and molders from 5 to 10 per cent May 1st, and their average wages at that time were about \$3.00 per day. Because of the refusal to sign a written agreement embodying union restrictions, they struck May 2nd and have been out since. The foundries are running today with about one-third of their normal output, with competent non-union helpers, and will hereafter maintain open shops free to all men. Only as individuals can molders return to work. Twenty-three foundries of the city have open shops and employ about 2,300 molders, as against five foundries who signed an agreement the first week of the strike and who employ 157 molders. Thus out of 28 foundries in the city, 23 are open shops and 5 are closed.

Free Press, June 14, 1906.—In regard to the 1,200 molders it is said that the employers offered to raise wages, but did not offer a shorter day.

It is also said the molders did not include in their demands any provisions as to open or closed shops. What they demanded was a nine hour day, with a minimum wage of \$2.85 for coremakers who have never had a minimum scale, and an increase of the minimum for molders from \$2.80 to \$3.15 for bench molders and from \$3.00 to \$3.25 for floor molders.

Free Press, July 6, 1906.—Within a few months a new building will be ready for occupancy at the West Milwaukee Shops of the C., M. & St. Paul Railroad. The number of employees will be increased from 4,008 to 5,000.

Free Press, July 14, 1906.—It is said there are no calls for workmen from the wheat fields to Milwaukee. We could send them all the men they wanted if they would furnish transportation. Men are constantly asking for work in the West. We do have a shortage of girls. There is a call for them at the various summer resorts.

It is reported that the foundry-men have 884 men working, which is 68 per cent of their normal number. These men, it is said, turn out 56 per cent of their normal output of castings.

Free Press, July 27, 1906.—The Iron Molders' Union sent 20 men to Cleveland, Ohio, to work in molders' plants yesterday. On Wednesday of this week 15 men left for Sharon, Pa. It was said at the headquarters of molders that they have more calls for men from all over the country than they can fill.

Milwaukee Free Press, Aug. 1, 1906.—A large portion of the conservative molders, with their families, are not in sympathy with a longer continuance of the strike, and they will soon be strong enough to make up their mind to go to work. Men find it hard to fall from \$3.00 per day to \$1.00 per day, which the union pays them. The season also has a great deal to do in regard to the continuance of the strike. In summer one can get along a great deal cheaper than in the winter.

Milwaukee Free Press, August 2, 1906.—There is great demand for bakers in this city and in this state. The reason for this is because Milwaukee pays lower wages than any other city of its size in the country; therefore, bakers go where wages are better.

Milwaukee Free Press, August 5, 1906.—The four establishments which are affected by the lithographers' strike are working as usual. This they do, however, by employing their office forces, which are largely made up of practical lithographers, it is said by strikers.

Milwaukee Free Press, August 11, 1906.—A foundryman of this city says that the molders' strike will never be settled. "The foundrymen will make no concessions and will not agree to a closed shop. As to the statement made by strikers that a great deal of scrap casting is turned out, we have not so much scrap castings turned out as they claim, and if we had we could afford it, as we have more machines now, each of which does the work of three molders. The little scrap that we may have we can melt over without any expense whatever."

Milwaukee Journal, August 3, 1906.—As a result of a disagreement on the question of arbitration about a dozen men employed at the plant of the Gugler Lithographing Company have walked out on strike. Others remain at work. The firm demanded that the national organization take up the question of adjusting the differences by arbitration, but this the men declined to accede to. At a number of other plants, including that of the Wilmanns Bros. Co., the total number on strike is reported as 50. The men demand an 8 hour day at the old wage. The Northwestern Company later acceded to the demands, temporarily at least, and other shops say they will do so if the majority of the shops agree.

Free Press, August 4, 1906.—The International Association of Machinists has, according to F. W. Wilson, business agent for the Machinists' Union, been successful in making agreements with a number of shops in the country to become union shops.

Evening Wisconsin. August 9, 1906.—Mining companies in the Lake Superior region are coming in conflict with the demand for harvest hands and are offering great inducements to men to go to work for them. They offer free transportation and \$2.00 per day for the balance of the season.

Free Press, August 10, 1906.—According to a statement made by a Milwaukee lithographer, the result of the present strike of lithographers in this city and throughout the country may be an open shop policy, at least on the part of those employers who are members of the National Lithographing Employers' Association.

Free Press, August 10, 1906.—The molders' strike remains the same. Yesterday was pay day for the striking molders, and about \$3,000 was paid out by the striking union.

Milwaukee Daily News, August 13, 1906.—Four thousand laborers are needed in southwest Wisconsin for mines, farms, etc.

Milwaukee Free Press, August 14, 1906.—This has been a quiet year in the plumbers' trade. There were comparatively few strikes this year throughout the country, about the only one being that at Sheboygan. The strike has been on there since May 1. A number of shops have already come to a settlement with the union.

Milwaukee Free Press, August 21, 1906.—The Association of Employers of Lithographers issued cards in almost every city in the United States outside of Milwaukee, announcing that hereafter its members will operate open shops. As a result artists working in the establishments, who have had an eight hour day for years, went out on a sympathetic strike.

Milwaukee Free Press, August 23, 1906.—At a meeting of striking lithographers last night at 300 Fourth St., it was reported that the George Schlegel Company, which is a member of the Employing Lithographers' Association, has acceded to the demand of the union for an eight hour day.

Milwaukee News, August 24, 1906.—A large number of the striking molders have left the city and have found employment elsewhere. The demand for molders is greater than ever before, and as a result the amount of money paid out in strike benefits yesterday showed a wonderful decrease in the number of idle men of that craft in the city.

Milwaukee Free Press, August 25, 1906—"One-third of the lithographers who went out on a strike in this city already are employed in various establishments which acceded in the demands of the union in this city and elsewhere," said one of the striking lithographers yesterday. "There is a great demand for lithographers all over the country just now, and we are constantly receiving letters to go to other cities. By the time a settlement will be brought about here more than half of the men may be employed elsewhere." A meeting of striking artists, engravers and designers was held last night. "We are striking to better our conditions," said one of the men, "We have an eight hour day. What we are striking for is the principle involved, the securing of an eight hour day for all lithographers in this country."

It was reported last night that about 30 of the striking artists will leave for Yellowstone Park for a vacation. But it is understood that there is a demand for artists in that part of the country and many of them may remain there, if they get work.

Milwaukee Free Press, August 31, 1906.—The molders' strike remains unchanged, and so far there is no prospect of settlement. The closed shop has never been made an issue in conference. Demands are the recognition of the minimum wage scale and a nine hour day.

Milwaukee Free Press, September 1, 1906.—Yesterday was pay day for striking molders. About three thousand dollars was paid out. The molders refused to discuss the report which came from Chicago that machines will be used in place of those molders who are on strike. They said that the new machine is unknown to them.

Milwaukee Free Press, September 2, 1906.—"Printers in this city are well organized now," said Henry Ohl, chairman of the executive board of Typographical Union. "There is hardly an important printing establishment in this city that does not belong to the union. The eight hour day is practically won all over the country. Next month the assessment will be reduced to 8 per cent, and in a few months will be dropped entirely.

"Our contract with employers in this city expires on June 1 of next year. We believe that the employers of this city will grant the eight hour demand without any fight. The business men of this city are helping us by demanding the union label. They find it to their advantage to have the label on their printing, and they make it a point to see it is there. The demand for the label is larger in Milwaukee than in any city of its size in the country."

Milwaukee Free Press, September 8, 1906.—The union barber shops are still in the minority, but are gradually getting more shops to join the union. They are trying to get all shops to close at 8 o'clock on week days and later to get them to close on Sundays.

Milwaukee Free Press, September 8, 1906.—The Metal Trades and Founders' Association are filling the shops with as many machines as they can get. While the machines cannot be run without men, they turn out more work than a man would turn out without the machines, and also they do not require skillful molders.

The strike remains unchanged. The men must decide soon now; once the shops are filled with other men, the strike will be ended of its own accord, and the men will have to go elsewhere for work.

Milwaukee Free Press, September 15, 1906.—There is said to be trouble between the Postal Telegraph Company and its operators. According to the story in circulation, which neither operators nor officials of the company in Milwaukee will discuss, the operators recently sent a list of 32 requests to officials of the company. In refusing the requests the company is said to have ignored the union by sending individual letters to operators.

Milwaukee Daily News, September 17, 1906.—It is said that the strikes which have been carried on in different parts of the state have not, as a rule, been for higher wages, but for a recognition of the union. Almost all the unions have increased their membership about 25 per cent, while the carpenters and painters have doubled their number, but in few cases have wages been increased. Bricklayers, millwrights and painters have increased their pay 5 cents an hour and carpenters $2\frac{1}{2}$ cents an hour.

Milwaukee Daily News, September 22, 1906.—An agreement has been reached between the Steam Fitters' Union and the brewers and the striking members of the union have returned to work at an increased rate of pay. The steam fitters had been paid at the rate of \$3.00 per day, but last week they made a demand for \$3.50 per day, which was refused. The refusal was followed by a strike of 16 men. The brewers then granted the demands of the men and the strike was called off.

Milwaukee Free Press, September 24, 1906.—The strike of the Winnepeg Building Trades Union, involving 4,000 men, was settled tonight and a permanent board of arbitration appointed. The strike has tied up all buildings for several weeks.

Milwaukee Journal, October 3, 1906.—The Milwaukee R. R. is building an addition to its shops at Milwaukee which will give employment to 100 more men. During the past two months they have added 200 men to their pay roll, mostly in their foundries and car erecting departments. Over 4,500 men are now employed by this company.

Evening Wisconsin, Milwaukee, October 12, 1906.—The condition at the foundries in Milwaukee are improving constantly, it is said, and the molders' strike will soon be forgotten. They now have about 80 per cent of their original help and are getting out about 75 per cent of their original output. The new men are becoming very proficient. Nearly all of the men who went out have left the city with the exception of about 20, who gave up the fight and returned to work.

Milwaukee Free Press, October 24, 1906.—A resolution was passed several weeks ago calling upon the various labor unions throughout

the state to give their support to the striking iron molders in Milwaukee. It is expected that the unions throughout the state will readily respond.

Mineral Point, November 30, 1905.—The Tripoli Mining Company have made preparations to run the mine throughout the entire winter. Company now has about 40 men on the pay roll. The latest important addition to the plant is a large roaster of the Mathee make by the Galena Iron Works.

Monroe, January 13, 1906.—Messrs. Mayer & Keiger of Chicago, have arranged to install machinery in glove factory. Are to manufacture gloves, skirts, clothing, mittens, etc., and will give employment to 150 operatives.

Neenah, December 30, 1905.—Paper mill workers start a fraternal insurance society among union men of the Fox River Valley. Insurance is life, accident and sick benefit.

Neenah, March 7, 1906.—The Neenah Paper Company's mill was destroyed by fire. The loss is estimated at \$100,000; 100 men were employed in the establishment.

Oconomowoc, January 24, 1906.—One hundred men working for the Knickerbocker Ice Co. struck yesterday. The men were getting \$1.50 per day and demanded \$1.75. The company will fill their places with men from Chicago.

Oconomowoc, January 26, 1906.—A majority of the striking employees of the Knickerbocker Ice Co. have gone back to work at \$1.50 per day, the old scale. An injunctive order restraining from maliciously cutting holes in the ice on Fowler Lake and from interfering with the ice to injure or damage, the plaintiff, the Knickerbocker Ice Co., was served on eleven men yesterday.

Oshkosh, November 20, 1905.—Oshkosh experienced a shortage in factory laborers. The reasons were: first, that much of the regular labor was drawn to the woods, and second, that outside work is preferred to factory work.

Oshkosh, November 20, 1905.—Twenty men employed in the Wisconsin Art Glass Co.'s plant struck. Strike occasioned by the discharge by the company of one of the apprentices.

Oshkosh, November 21, 1905.—Eight of the men employed on the riveting works of the Main Street bridge struck. They were employed by the Modern Steel Structural Co. Cause of the strike was the employment by the company of non-union riveters.

Oshkosh, November 23, 1905.—Glass workers of the Wisconsin Art Glass Co. have returned to work and the factory is again in operation. The men returned to work with no concessions made by the company, taking up their work under the former regulations.

Oshkosh, March 28, 1906.—About 200 section hands employed by the Chicago, Milwaukee & St. Paul Ry. yards in Milwaukee went on a strike, demanding an increase from \$1.50 to \$1.75 per day.

Oshkosh, March 28, 1906.—Members of the Oshkosh Carpenters' union to the number of about 150 are on a strike as the result of a demand

on the building contractors of the city for a fixed wage scale of 30 cents an hour, minimum, and the refusal of contractors to make an agreement without due consideration.

Peshtigo Times, September 13, 1906.—About 40 men have been sent up the line to work on an extensive grading job near Everett, Miscauno Island, and the Noquebay branch. This work is necessary before the logging season comes. More blacksmiths have also been called into requisition for fitting up logging flats with chains and rails.

Platteville, November 2, 1905.—There is a growing demand for skilled labor throughout the mining districts.

Platteville, November 2, 1905.—Seventy-five laborers are making track improvements between Mineral Point, Calamine and this city.

Platteville, August 1, 1906.—There is a scarcity of labor in the mining districts of Platteville and they are willing to pay \$2.50 per day. Scandinavian laborers are especially sought by the employers.

Prairie du Chien, December 6, 1905.—Button factory established which will give employment to over 100 men.

Prairie du Chien, October 17, 1906.—A gang of cement workers on the Burlington struck Thursday for more pay and steadier hours. The contractors immediately imported a gang of negroes from Chicago to take their places.

Prescott, Wis., September, 1906.—Employment agencies have booked many orders for woodsmen of late, but as they have been fairly deluged for three months past with demands for labor in other lines and have been able only partially to meet the calls upon them, it is likely that this source of supply will avail the lumbering interests little. The lumber companies are offering good wages, ranging from \$26 to \$35 a month, and excellent board and accommodations, but they will, no doubt, be compelled to draw on the Italian and other foreign colonies of the big cities for workmen.

Racine, November 3, 1905.—The Harman Trunk Company has awarded the contract for a new addition to its plant. Estimated cost of new structure is \$15,000. This will necessitate the doubling of the labor force which is now about 200.

Racine, January 3, 1906.—Proprietors of all newspapers and job printing offices have conceded the eight hour day to printers.

Racine, January 27, 1906.—The Mitchell Motor Car Company on January 1 had orders on its books amounting to \$650,000 and on February 15 the factory is to run night and day with a force of 400 men.

Racine, February 7, 1906.—The Racine Malleable and Wrought Iron Company's plant, located at Lakeside, was sold to Cleveland, Ohio, parties for \$250,000. The principal purchasers are the Everhart Manufacturing Co., of Cleveland. The company was capitalized for \$200,000 and employed 300 hands. Employees will be increased to 700.

Racine, April 24, 1906.—The strike which started yesterday in the Big Allen Tannery has spread to every part of the shop and between 1,000 and 1,500 men are out.

Racine, May 10, 1906.—Twenty Hungarians and Italians employed by the Racine Gas Co. in digging trenches struck today because an increase in wages from \$1.75 to \$2.00 per day was refused.

Racine Journal, September 14, 1906.—There never has been so large an amount spent in factories as during the year 1906. The amount spent will not fall short of one-half million. Factories are swamped with orders, and are running overtime. Some are running night and day. The Mitchell & Lewis Co. are putting up the largest factory ever built in this city and when completed will employ from 200 to 300 men. Factories are being built and remodeled all over the city. It is estimated that the improvement made this year will call for an increase of not far from 1,000 operatives.

Racine, October 11, 1906.—This afternoon one hundred molders employed by the Wisconsin Engine Co., at Corliss, went out on a strike, necessitating closing the entire molders' department. They struck because they were promised 10 hours' pay for 9 hours' work. They thought they were getting it until one of their men quit and when he received his check saw they were only paying for nine hours. In consequence they all quit. The officers of the company refused to make any statement.

Racine, October 12, 1906.—Union printers at Marinette and Menominee have gone on a strike for the enforcement of the eight hour day.

Rhineland, January 5, 1906.—The big plant of the Wisconsin Veneer Co., twice destroyed by fire, commenced operations January 3, 1906. Plant is nearly twice as large as last one. Will employ about 80 men.

Rice Lake, January 27, 1906.—Farmers of Barron County are to be formed into local unions of the American Society of Equity. Object is to control marketing and price-making.

Rice Lake, June 1, 1906.—The strike of the saw mill men at Hayward was settled last week by granting them a ten hour day with slightly reduced pay.

Sheboygan, May 3, 1906.—Plumbers and Steam Fitters' Unions have quit work on a demand for higher wages. Building operations are greatly hampered.

Sparta, Wis., September 21, 1906.—A new factory which will manufacture patent well tubing and stock will be located on East Oak St.

From eight to a dozen men will be employed at the start and the force will be increased as the business grows.

Spring Valley, May 31, 1906.—About 20 Polanders working in the mines struck Saturday for shorter hours and more pay.

Stevens Point, July 14, 1906.—Eighteen of the nineteen men who were working for the city on the stone crusher went on a strike Monday. They received \$1.50 per day and wanted an increase of 25 cents. They would not even work until night to give time to secure other men, and as a result work ceased for a while. The places were soon filled.

Sturgeon Bay. Door County Democrat, August 4, 1906.—There are good prospects for a cement factory at Sturgeon Bay which will employ 350 men the year around. The factory proposed would have a capacity of 1,000 barrels per day.

Superior, January 24, 1906.—The Northwestern Boiler Works and the National Boiler Works closed down because of a strike by 200 boiler makers. The union demanded a 25 per cent increase in wages per day, which was refused.

Superior, February 6, 1906.—The boiler makers of the city who were out on a strike have returned to work at an increase in their pay of 2 2-3 cents an hour. Men to receive double time on all repair work and time and one-half on all new work for all straight over time.

Superior Telegram, July 18, 1906.—A strike of 35 chairmen at Weyerhaeuser Mill at Lake Nebagamon has necessitated closing down the plant there nights. They quit work because of the company refusing them a request of 25 cents advance in pay. They now get \$2.00 per day.

Tomahawk, September 15, 1906.—The Tomahawk Box Company's manufacturing plant is running steadily and gives promise of becoming one of Tomahawk's important manufacturing plants. At the present time 20 men are employed at the plant but it is expected that 30 or 35 men will be given employment within a few days.

Two Rivers, November 21, 1905.—The Aluminum Mfg. Co. are building an addition to their factory as large as the present works. Capacity of the plant is to be doubled. Company now employs 125 hands.

Two Rivers, January 11, 1906.—Two Rivers Brick Co. is a new company which is to establish a plant on the Misticott River near this city. Output of plant to be about 60,000 per day.

Washburn, March 24, 1906.—Washburn Stone Co. begins season with sixty men employed.

The Washburn Times, August 2, 1906.—The first raft of spruce pulpwood which has arrived at this point has been loaded on cars and is now at its destination. The raft contained 95 car loads. Arrangements have been made for the development of this business, and next season it is expected that from 25 to 40 men will be employed during the entire summer.

Washburn, Wis., August 16, 1906.—The Nye-Jenks Grain Company have increased the wages of their men. This took effect August 15. The lowest paid man now gets \$2.25 per day. The raise came as a surprise to the workmen.

Washburn, September 20, 1906.—The new mill of The Hines Lumber Co. will run night and day. Between 40 and 50 men are employed in and about the mill during the day and almost that number will work nights.

Watertown, Wis., September 21, 1906.—The Washington Cutlery Company here will install new machinery and will start October 1. They will start with 40 men and will gradually increase to 100 men.

Wausau, November 2, 1905.—Many of the large lumber companies are operating with only half force. The cause of the scarcity of labor is due to the fact that employment agencies are sending many of the laborers to the western states where the lumber industry is rapidly developing and where wages are higher.

West Allis, January 22, 1906.—As a result of the strike of the machinists of the plant of the Allis-Chalmers Company, a sweeping injunction has been issued upon the petition of the American Bridge Co. against thirty members of the Structural Iron Workers' Union. Strikers are enjoined from interfering in any way with anyone wishing to enter the employment of the American Bridge company.

